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September 1991

Wyoming Statewide Wilderness Study Report
Wilderness Study Area Specific Recommendations

Volume II

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WILDERNESS STUDY REPORT

Prepared by:

U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office
Cheyenne, Wyoming

September 1991

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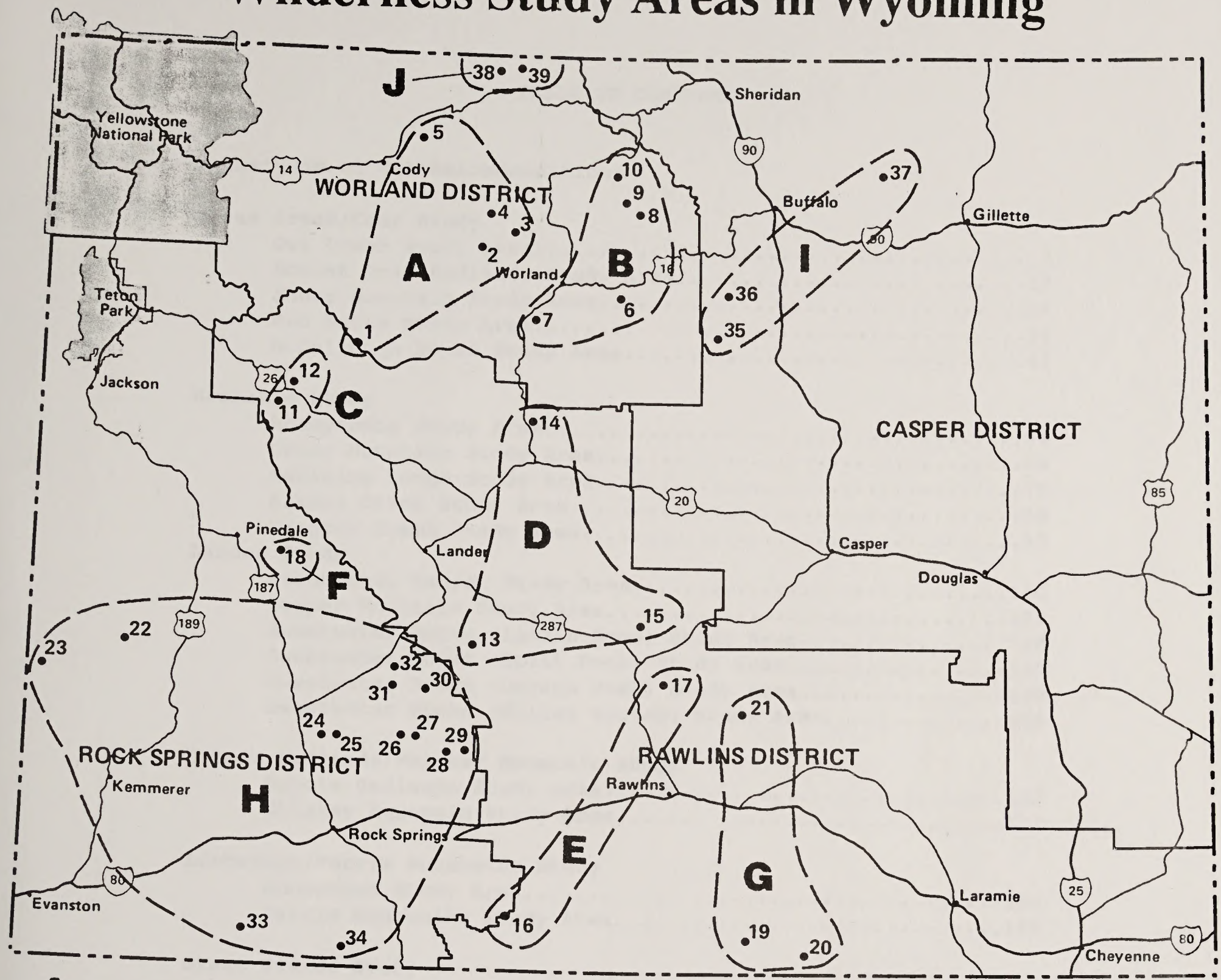
Wilderness Study Areas in Wyoming



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2. Bobcat Draw Badlands
3. Sheep Mountain
4. Red Butte
5. McCullough Peaks

B—Washakie Wilderness EIS
6. Honeycombs
7. Cedar Mountain
8. Medicine Lodge
9. Alkali Creek
10. Trapper Creek

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SUMMARY ANALYSIS OF SPECIFIC WSA RECOMMENDATIONS

WORLAND DISTRICT

OWL CREEK
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 710 acres

The Owl Creek WSA (WY-010-104 a, b, c) consists of three units totalling 710 acres (see map). The WSA is located in Hot Springs County, approximately 60 miles west of Thermopolis, Wyoming. The boundary of tract A is formed by the Washakie Wilderness to the north, the South Fork of Owl Creek and the Wind River Indian Reservation to the west, by Klicker Creek to the south, and private land on the east. Tract B is adjacent to the Washakie Wilderness, which forms the north boundary and private land surrounds the rest of tract B. The east boundary of tract C extends along Rock Creek and the Washakie Wilderness on the west. The north boundary is formed by a short segment of private property and the south boundary is located along the south section line of section 31.

The unit is composed of three separate tracts located near the Owl Creek Mountains and the Absaroka Mountains near a peak called the Washakie Needles. The landscape is dominated by a major ridge line that divides the main drainages of Rock Creek and the South Fork of Owl Creek. Several steep, rugged spur ridges extend laterally from the main ridge, and are sharply separated by a number of deep side-draws that drain into the relatively wide, flat bottoms of the main drainages.

Tracts 104a and 104c are composed of moderately vegetated spur ridges that drop sharply from about mid-slope down to the wide bottoms of the South Fork of Owl Creek and Rock Creek. The steep slopes are covered with irregular dense patches of mixed conifers interspersed with exposed areas of bare, rocky soil.

Conifers mingle with linear patches and isolated pockets of aspen along the steeper draw bottoms. Track 104b is a long, narrow strip located above the timber line along the crest and upper western slopes of the main ridge line dividing the South Fork of Owl Creek and Rock Creek. Severe weathering and erosion on the steep rocky slopes and cliffs are accentuated by the complete lack of vegetation along the ridge line.

Elevations in the unit range from almost 10,900 feet along the bare ridge crest in tract 104b to 9,200 feet in the southeast corner of tract 104c along the Rock Creek bottom, and 9,000 feet along the South Fork of Owl Creek in the southern tip of tract 104a.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Grass Creek/Cody Wilderness Environmental Impact Statement (EIS) filed in August 1990. There were two alternatives analyzed in the EIS, No Wilderness and All Wilderness. The All Wilderness Alternative is the recommendation of this report.

2. **RECOMMENDATION AND RATIONALE** - **710 acres recommended for wilderness**
0 acres recommended for nonwilderness

All Wilderness is the recommendation for this WSA. This is considered to be the environmentally preferable alternative as it will result in the least change from the natural environment over the long term.

The recommendation was based partly on the fact that the area is natural in appearance and provides an outstanding resource base for wilderness-dependent opportunities and experiences. There are a few imprints in the area but they do not detract from the natural character of the area. This natural setting of remote rugged topography challenges the recreationist seeking a primitive, nonmotorized-type experience, as well as providing outstanding opportunities for solitude. When added to the adjacent Washakie Wilderness, the area is large enough to accommodate wilderness-dependent activities and provide experiences such as the feeling of being unconfined. These opportunities will remain even if recreational use of the area increases.

The recommendation was based partly on the recreational potential of the WSA and adjacent Washakie Wilderness which is exceptional. The scenic terrain provides a base for sightseeing, hiking, hunting, trapping, wildlife observation and photography, backpacking, and horseback riding; which combine to offer a diverse, unique and high quality recreation and wilderness opportunity with the adjacent Washakie Wilderness.

The recommendation was also based partly on the fact that the conflicts with other resource uses of this WSA are limited. Grazing use will be allowed to continue. Limited forestry or timber values exist. Development of oil and gas resources are not anticipated because of the high costs and environmental protection stipulations designed to protect soils, watershed, fisheries, scenery, and big game habitat. The Off-Road Vehicle Amendment to the Grass Creek Resource Area Management Framework Plan (BLM, 1990) has designated the area closed to motorized vehicle use.

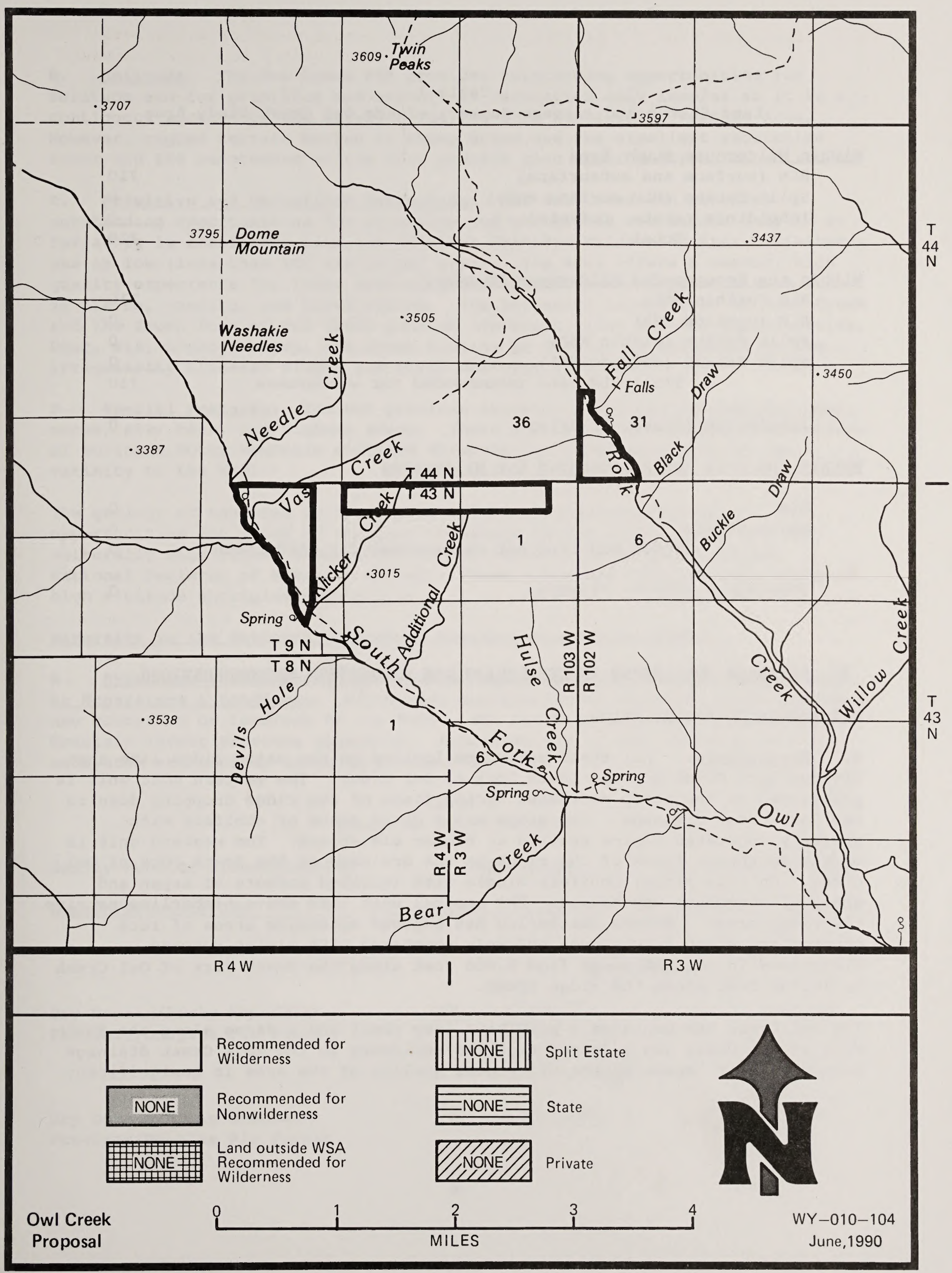

3609 Twin Peaks
3707
3597
3795 Dome Mountain
3437
T 44 N
3505
Washakie Needles
Needle Creek
Fall Creek
Falls
3450
Draw
36
31
3387
Black
Draw
Vas
Creek
T 44 N
T 43 N
Rock
Buckle
Draw
1
6
Klicker Creek
3015
Additional Creek
Spring
South
T 9 N
T 8 N
Hulse Creek
R 103 W
R 102 W
Creek
Willow Creek
T 43 N
Devils Hole
3538
1
Fork
6
Spring
Spring
Owl
R 4 W
R 3 W
Creek
Bear
R 4 W
R 3 W
Recommended for Wilderness
NONE
Recommended for Nonwilderness
NONE
Land outside WSA Recommended for Wilderness
NONE
Split Estate
NONE
State
NONE
Private
0
1
2
3
4
MILES
Owl Creek Proposal
WY–010–104
June, 1990

Table 1
Land Status and Acreage Summary of the Owl Creek Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	710
Split Estate (BLM surface only)	0
Inholdings (state, private)	0
Total	710
Within the Recommended Wilderness Boundary	
BLM (within WSA)	710
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	710
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM land not recommended for wilderness	0
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. Naturalness: All three units are located on the major ridge line that divides Rock Creek and the South Fork of Owl Creek. The eastern most unit is positioned on the steep northeast facing flank of the ridge dropping down to the Rock Creek drainage. The slope has a dense stand of conifers with sparsely vegetated alpine species at higher elevations. The western unit is on the southwest flank of the ridge in the drainage of the South Fork of Owl Creek. On this slope, conifers mingle with isolated pockets of aspen and areas of sagebrush vegetation. The central unit lies above timberline astride the ridge crest. Severe weathering has exposed extensive areas of rock outcrop and steep rock slopes sparsely vegetated with alpine species. Elevations in the WSA range from 9,000 feet along the South Fork of Owl Creek to 10,900 feet along the ridge crest.

The Owl Creek WSA contains a primitive jeep trail and a fence along the South Fork of Owl Creek and a fenced riparian enclosure in the Rock Creek drainage bottom. Their impact to the wilderness quality of the area is insignificant.

B. **Solitude**: The Owl Creek WSA provides outstanding opportunities for solitude and for primitive and unconfined recreation only insofar as it is a contiguous portion of the adjacent 704,274 acre Washakie Wilderness area. However, rugged terrain broken by steep draws and the excellent vegetative cover and the remoteness of the area provide good opportunities for solitude.

C. **Primitive and Unconfined Recreation**: The Owl Creek WSA provides outstanding opportunities for primitive and unconfined recreation only in so far as it is contiguous with the adjacent Washakie Wilderness Area. Visitor use is low (less than 100 visits per year). The area offers a scenic, high quality experience for those seeking primitive recreation opportunities such as hiking, camping, and horse riding. The perennial streamflows of Rock Creek and the South Fork of Owl Creek provide important trout fishing opportunities. Deer, elk, bighorn sheep, and moose hunting or viewing is excellent on the irregularity timbered slopes and broad drainage bottoms.

D. **Special Features**: The WSA provides important critical habitat for deer, moose, elk, bear, and bighorn sheep. There have been unconfirmed observations of Northern Rocky Mountain wolf and observations of grizzly bear in the vicinity of the WSA.

The geology of the area is largely unexplored and offers excellent opportunities for study of tertiary volcanics in the area. There are two culturally significant sites which are believed to be eligible for the National Register of Historic Places. These sites are important for study of high altitude aboriginal occupation.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, As Represented by Ecosystems & Landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the NWPS. The Owl Creek WSA is in the Rocky Mountain Forest Province ecosystem. Approximately 10,258,000 acres of this ecosystem are already included in the NWPS.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
Domain/Province/PNW	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Rocky Mountain Province/Douglas Fir Forest	18	1,349,971	23	166,444
		WYOMING		
Dry Domain/Rocky Mountain Province/Douglas Fir Forest	9	851,433	7	199,380

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers.** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

	NWPS areas		Other BLM Studies	
Population Center	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	464,949
Billings, Montana	12	4,808,142	54	3,483,717

C. **Balancing the Geographic Distribution of Wilderness Areas;** Designation of the Owl Creek WSA would not improve the balance of the geographic distribution of wilderness but it is a natural extension and logical addition to the Washakie Wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,810 acres), Washakie (704,274 acres), and Bridger (428,087 acres).

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The WSA is considered to be manageable as wilderness, and management would be coordinated with the adjacent U.S. Forest Service-administered Washakie Wilderness. The Owl Creek WSA would be an addition to the contiguous 704,274-acre Washakie Wilderness. The BLM would be capable of maintaining wilderness values over the long term.

Energy and Mineral Resource Values

The U.S. Geological Survey and the Bureau of Mines prepared a mineral assessment for the Owl Creek WSA in 1989 (U.S. Geological Survey Bulletin 1756-10). That assessment is the primary source for the following discussion.

The probable presence of reservoir quality rocks, potential large anticlinal traps and the proximity of oil shows in potential reservoir rocks indicate the potential for occurrence of oil in the WSA is high. There are no pre-FLPMA leases but there are two post-FLPMA leases covering 420 acres in the Central and Rock Creek units of the WSA. Both leases will expire by 1991, unless they are held by production on any part of the lease.

There are no mining claims within the WSA. There is no known present or past production of coal or locatable or salable minerals within the study area. No known or suspected deposits of locatable minerals in economic quantities are within the WSA.

Impacts on Other Resources

The following comparative impact table (see table 4) summarized the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	All Wilderness (Proposed Action)	No Wilderness
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 710 acres. An increase of 200 visitor use days per year after 20 years is anticipated as a result of designating the area as wilderness and the proximity of the Washakie Wilderness area.	The protection of naturalness, solitude, and primitive and unconfined recreation, and special values is not assured. Those values are expected to remain unchanged, however, because restrictions on surface-disturbing activities to protect the environment would be applied on all 710 acres in the WSA. Only slight increases in visitor use are anticipated over the next 20 years.
Exploration and Development	Although wilderness designation would preclude oil and gas exploration and development, there would be no effect because no development is anticipated in the absence of wilderness designation.	Due to restrictions on surface occupancy and the high cost of directional drilling, no oil and gas exploration or development is anticipated.
Wildlife Habitat and Populations	Wilderness designation would assure long-term protection of migration routes for about 350 elk, mule deer, and 140 Bighorn sheep; elk calving habitat; Bighorn sheep winter and spring range; and moose and mule deer spring, summer, and fall range on 710 acres.	As a result of surface-use restrictions, elk, mule deer, and Bighorn sheep populations; elk calving habitat; Bighorn sheep winter and spring range; and moose and mule deer spring, summer, and fall range would be protected.
Fisheries and Riparian Habitat	Wilderness designation would assure long-term protection of riparian and fisheries habitat from surface-disturbing activities. Constructing fences around four springs and maintaining about 3 miles of fence designed to exclude livestock from streams and riparian areas would restore riparian zones and fisheries. Fish populations would increase three-fold over a 30- to 50-year period.	Although not assured protection, riparian and fisheries habitat are not expected to be adversely affected. The restoration of riparian and fisheries habitats would permit a three-fold increase in trout populations.

Local Social and Economic Effects

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Nine comments were received on this unit. Two comments disagreed with the proposed decision to designate the unit as a Wilderness Study Area but cited other resource values and philosophical arguments for their rationales. Five of the comments in favor of the proposed decision addressed issues other than wilderness characteristics in their rationales. Two comments cited the units' wilderness characteristics in their support of the proposed designation. Based on public input received, the final decision on this unit is to establish it as a formally designated Wilderness Study Area.

Draft EIS: The Draft Owl Creek Supplement EIS received a total of 45 comments on the recommendations and analysis from the individuals, organizations, businesses, and state and federal agencies. The comments were received either orally or in writing, throughout a 90-day public comment period (May 2, 1986 through July 31, 1986). One public hearing was held in Thermopolis, Wyoming in June 26, 1986.

Five individuals attended the public hearing; only one individual testified. The testimony was in support of wilderness designation (see Public Hearing Transcripts).

Forty-four letters were received that included:

1. Twenty-two letters were in support of wilderness
2. Fourteen letters were opposed to wilderness
3. Eight letters concurred with the BLM's analysis and recommendations

Local, State and Federal Agency Comments:

Thirteen letters were received from federal and state agencies. Ten agencies either supported or concurred with the BLM's recommendation and analysis and three agencies (including the Office of the Governor), opposed the BLM's recommendation.

BOBCAT DRAW BADLANDS
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 17,150 acres

The Bobcat Draw Badlands WSA (WY-010-126) includes 17,150 acres of public land administered by the Bureau of Land Management (BLM). There are 1,390 acres of state-owned lands inholdings within the wilderness study area (see map and table 1). The WSA is located in Washakie and Big Horn County, approximately 25 miles west of Worland, Wyoming. The southern, western, and eastern boundary of the WSA follow primitive roads. The northeast boundary follows a road and then detours around a state-owned section T. 49 N., R. 97 W., section 36, and continues along a road to the southeast to a two-track trail which was used as a boundary to exclude an area lacking wilderness characteristics. A portion of the northern boundary is located along private land.

The western portion of the WSA is dominated by broad, grass-covered benches or ridges that are separated by deep, wide drainages running into the Big Draw drainage to the north or the Fifteenmile drainage to the east. Bare, rugged desert pockets of colorful badland scenery and formations like hoodoos, spires, and mushrooms are predominant in the central and southern portions of the unit and offer interesting attractions to recreationists. Rich colors of orange, red, and purple are layered throughout the broken, eroded topography of this Willwood geologic formation. The flat, sandy drainage of Fifteenmile Creek, thickly vegetated with sagebrush and greasewood, extends along the northern fringe of the unit. The highly variable terrain and the rugged, colorful badland topography offer a unique and interesting wilderness and primitive recreation setting.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Grass Creek/Cody Wilderness Environmental Impact Statement (EIS) filed in August 1990. There were four alternatives analyzed in the EIS: All Wilderness (17,150 acres); No Wilderness; Larger All Wilderness with addition (22,440 acres) (a.k.a. Wilderness Manageability; and All Wilderness with addition (18,540 acres) (Proposed Action) (a.k.a. Conflict Reduction) which is the recommendation of this report.

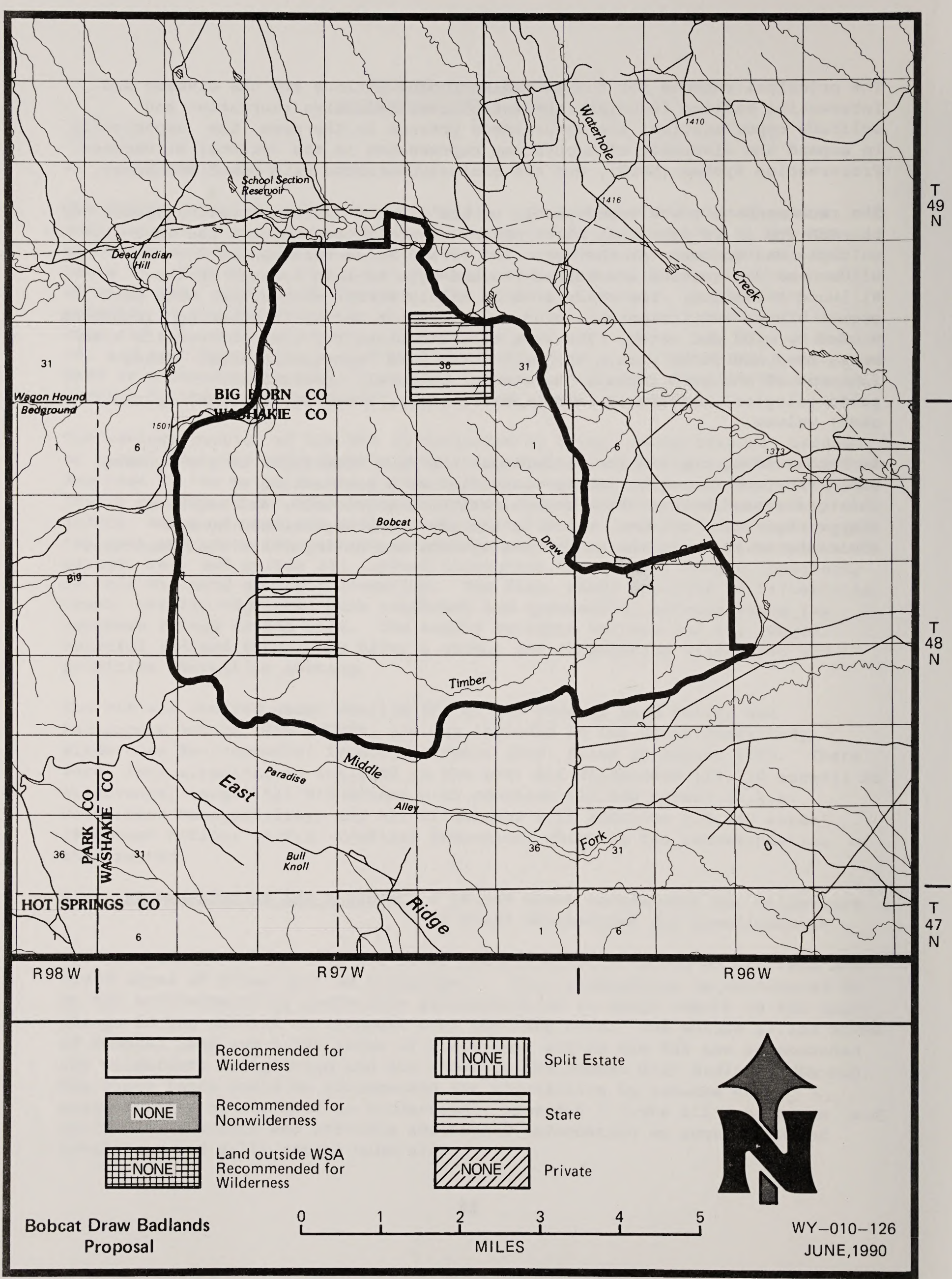
2. RECOMMENDATION AND RATIONALE - 18,540 acres recommended for wilderness
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate 17,150 acres of BLM land and 1,390 acres of State land as wilderness. This alternative is considered to be the environmentally preferable alternative as it would result in the least change in the natural environment over the long term. The entire 17,150 acres of federal land and 1,390 acres of state land within the WSA are recommended for wilderness designation and are shown on the Bobcat Draw Badlands WSA map. The state lands would be recommended for acquisition to enhance the manageability of the area as wilderness. Appendix 1 lists all inholdings and split estate tracts and provides additional information on acquisition of inholdings and split estate minerals.

The principal reasons for the suitable recommendations are the diverse and interesting badland features, the exceptional primitive recreation and solitude opportunities; the naturalness present in the area, the opportunity to expand the diversity of ecosystems represented in the National Wilderness Preservation System (NWPS), and the minimal conflicts with other resources.

The recommendation was based partly on the diverse and high quality values of the WSA and it is felt that wilderness is the highest and best use in a multiple use context for the WSA. The 18,540 acres recommended for wilderness designation are desert badland-type terrain located in the Willwood Formation. The study area is highly scenic and unique, with both scenic vistas and intimate, secluded areas dominated by interesting landforms eroded by wind and water. The area offers habitat for the Fifteenmile wild horse herd and falls within the wild horse herd management area. Other features of the area include the scenic, cultural, geological, paleontological, watershed, and wildlife (deer, antelope, bobcats, upland game) values.

In recommending the WSA for wilderness, the fact that it is in the Wyoming Basin Province Ecoregion and is classified as a combination of wheatgrass-needlegrass shrub steppe, saltbush-greasewood, and sagebrush steppe vegetation classes, which is not presently represented by BLM-administered lands in the wilderness system, was an important consideration.



Bobcat Draw Badlands Proposal

WY–010–126
JUNE, 1990

Table 1

Land Status and Acreage Summary of the Bobcat Draw Badlands Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	17,150
Split Estate (BLM surface only)	0
Inholdings (state, private)	1,390 (state)
Total	18,540
Within the Recommended Wilderness Boundary	
BLM (within WSA)	17,150
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	17,150
Inholdings (State, Private) 1/	1,390 (state)
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM land not recommended for wilderness	0
Inholdings (State, Private)	0

1 Appendix 1 is a detailed description of inholdings and/or split estate tracts included within the study.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness**: The southwestern corner of the WSA is dominated by long, flat-topped, grassland ridges or plateaus that extend finger-like between badland breaks and drainages. The most striking feature of the area is the rugged badland terrain separating these ridges from the drainage bottoms. The action of wind and water on layers of soft clay sandstone and ancient volcanic ash interspersed between erosion-resistant rock and shale layers has cut a maze of deep narrow draws leaving jagged angular ridges. Badland features such as orange, red, tan, gray, and white striated cliffs, hoodoos, and mushrooms jut up from silted bottoms and eroded pockets throughout the landscape. These badland breaks give way to flat, grassy drainage bottoms near the eastern and northern edges of the area; but even this flatter terrain is interrupted by badland hillocks and erosional features.

The Bobcat Draw Badlands WSA basically appears natural with negligible overall influence of human imprints. The colorful badlands provide a natural setting that entices people to view and explore the many varied shapes carved out of the landscape. Many of the faint evidences of man, such as vehicle trails, fences, livestock reservoirs, and cherry-stem roads, are becoming even less and less distinct as time and natural processes obliterate them and do not substantially detract from natural character because of their wide dispersion over the 18,540 acres, the topographic screening, and the low impact of the intrusions individually. The presence of numerous wildlife species enhances the area's naturalness and visitors may encounter antelope, deer, raptors, game birds, and small animals.

B. **Solitude**: The Bobcat Draw Badlands offers an outstanding opportunity for solitude. The rugged badland topography throughout most of the area provides screening and a profound sense of seclusion that is enhanced by the remote natural character of the WSA. Visitors are provided ample opportunities to avoid the sights and sounds of other visitors in the stark, rugged badlands and drainages. In areas with a vista, vast expanses surround the viewer and the Absaroka Mountains to the west and the Bighorn Mountains to the east are visible.

C. **Primitive and Unconfined Recreation**: The Bobcat Draw Badlands WSA, in combination with its size, varied and rugged topography, diversity of landscape, and scenic attributes, contains outstanding opportunities for a primitive and unconfined type of recreation.

The badland setting provides outstanding hiking, exploring, and "freedom of movement" opportunities. Rock collecting, wildlife viewing, hiking, hunting, horseback riding, nonconsumptive wildlife use, photography and geological sightseeing are activities which occur in this WSA. Visitor use is low (approximately 240 plus visitor use days per year).

D. **Special Features**: The Bobcat Draw Badlands WSA offers special features and scenic beauty which are outstanding. Terrain in the unit is highly unique and variable in land form and color. The study area is located in the Willwood geologic formation famous for its early Eocene period vertebrate fossils. The area's uniqueness results from the presence of hard erosion resistant rock layers spaced every few feet between layers of soft erodible material. The colors brightly contrast between different soil and rock layers. Weathering of these layers has created a "Devil's Garden" of arches, goblins, castles, and other fantastic or fanciful landforms. There are two culturally significant sites which are believed to be eligible of the National Register of Historic Places. These sites are important because of their occurrence in a badland-type setting.

The WSA is within the Fifteenmile Wild Horse Herd Management Area. This herd is managed with an average annual objective of 100 adult horses over a five-year period. It is expected that an average of approximately 25 to 30 horses would use the study area on a year-round basis. In addition, the National Park Service has identified the Gooseberry Badlands and the east ridge of Fifteenmile Creek (both located within or near the WSA) as potential National Natural Landmarks.

The WSA contains paleontological resources which are of national significance and include: fossils of vertebrates (fish, crocodiles and turtles), invertebrates (gastropods, pelecypods, and abundant ostracodes), and plant fossils. There are two culturally significant sites which are believed to be eligible for the National Register of Historic Places. These sites are important because of their occurrence in a badland-type setting.

Diversity in the National Wilderness Preservation System (NWPS)

A. Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms: The Bobcat Draw Badlands WSA is in the Wyoming Basin Province Ecoregion. Designation of this WSA would add a new ecosystem or landform to the NWPS. Thus it would add considerable diversity to the NWPS, both ecologically and from a diversity of recreation experiences and opportunities standpoint. There currently are no representative wheatgrass needlegrass shrub steppe, saltbush greasewood, and sagebrush steppe classification classes of the Wyoming Basin Ecoregion in the NWPS. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
NATIONWIDE				
Dry Domain/Wyoming Basin Province Wheatgrass-needlegrass shrub steppe, Saltbush-greasewood Sagebrush steppe	1	17,000	33	562,004
WYOMING				
Dry Domain/Wyoming Basin Province Wheatgrass-needlegrass shrub steppe, Saltbush-greasewood Sagebrush steppe	1	17,000	5	81,408

B. Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (Five Hours) of Major Population Centers: The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Center	NWPS areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	448,509
Billings, Montana	12	4,808,142	54	3,466,577

C. **Balancing the Geographic Distribution of Wilderness Areas**: Designation of the Bobcat Draw Badlands would not improve the balance of the geographic distribution of wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,484 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of Bobcat Draw Badlands WSA would help to balance the opportunities to attain diverse wilderness experiences by adding a dry, "cold" desert badland area to the system and diversify ecosystem representation in the NWPS. Bobcat Draw is located close to towns in the Bighorn Basin so that users would not have to travel great distances to visit the areas. In this respect, there is a geographic distribution benefit to designating Bobcat Draw Badlands. The majority of designated areas are typical U.S. Forest Service areas and do not offer extensive ecosystem diversity or desert areas for recreationists, or long seasons free from snow.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The WSA is manageable as wilderness, although management actions such as public education, route closures, enforcement, signing and compliance patrols will be needed in varying degrees. A wilderness management plan would be written identifying coordination and management needs. The area is surrounded by public land which makes management of and planning of any facilities (e.g. trailheads) more feasible.

The location of the two state sections in this WSA is such that it would be desirable to include these sections in a designation in order to enhance management. The state of Wyoming has indicated that it would want to work out exchanges for any of its lands included in an area recommended for wilderness designation.

Energy and Mineral Resource Values

From information gathered by the U.S. Geological Survey and the U.S. Bureau of Mines, this study area is near the deepest structural part of the Bighorn Basin, a typical structural and topographic inter-montane basin in the Rocky Mountain Region. The WSA has high potential for oil and gas resources beneath the Bobcat Draw Badlands WSA. Exploration and production is rated at moderate potential considering the cost of drilling and producing these reserves versus anticipated income which currently is not favorable for gas exploration. The deepest locations for gas in the Bighorn Basin are found beneath Bobcat Draw Badlands making development highly improbable and uneconomical. One well, located 3.5 miles west of the study area, had an initial gas production of 7,443 thousand cubic foot of gas per day. This producer, ultimately drilled to a depth of over 23,000 feet, was a reentry of an earlier hole drilled two years before and then abandoned as a dry hole. Two other exploration wells have been drilled in the vicinity, one within the boundaries of the study area (drilled to over 18,000 feet and abandoned as dry) and one drilled about two miles northeast of the study area (drilled to over 16,000 feet and reported as dry but with a show of gas). There are no pre-FLPMA or post-FLPMA leases in the WSA.

No known or suspected deposits of locatable minerals in economic quantities are within the WSA. The potential for locatable and salable minerals is rated as low. Currently, there are no mining claims within the WSA. Potential for coal development is considered low.

Impacts on Other Resources

The following comparative impact table summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Conflict Reduction (Proposed Action)	All Wilderness	Wilderness Manageability	No Wilderness (No Action)
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values would be assured statutory protection on 18,540 acres. An additional 260 visitor use days per year are predicted by the end of 20 years.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 17,150 acres. An additional 260 visitor use days per year are anticipated by the end of 20 years.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 17,150 acres. An additional 260 visitor use days per year are anticipated by the end of 20 years.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation would be eliminated and special values impaired on 26 acres. Impairment would occur on an additional 640 acres because of the sights and sounds associated with deep gas exploration and development. Wilderness values would likely be retained on the remainder of the WSA because no actions are anticipated which would cause impairment. No increased visitor use is anticipated.
Exploration and Development of Leasable Minerals	Wilderness designation would preclude the production of approximately 10 billion cubic feet of gas.	Wilderness designation would preclude the production of approximately 10 billion cubic feet of gas.	Wilderness designation would preclude the production of approximately 10 billion cubic feet of gas.	Approximately 10 billion cubic feet of natural gas would be recovered from two gas wells drilled in the WSA on 1,883 acres not affected by environmental restrictions.
Water Quality	There will be no change in sediment loading into the Bighorn River. Fencing the Island Reservoir will increase its effective life by ten years.	Fencing and guzzler developments will maintain water quality by preventing additional sediment loading into the Bighorn River. The Island Reservoir's effective life would be extended by ten years.	Sediment loading (about 26,000 tons per year) in the Bighorn River would not be affected by fencing and guzzler developments. The Island Reservoir's useful life would be extended by ten years.	Sediment discharged into the Bighorn River would increase by 40 tons per year. In comparison, naturally occurring natural sediment loads of about 26,000 tons per year originate within the WSA. The Island Reservoir's useful life would be extended by ten years.
Wildlife Habitat	Wilderness designation would assure long-term protection of wildlife habitat for 130 mule deer and 250 antelope in the WSA. In addition, bird and upland game habitat quality would be improved by providing more water at critical times of the year.	Wilderness designation would assure long-term protection of wildlife habitat for 130 mule deer and 250 antelope on 17,150 acres. Bird and upland game habitat quality would be improved by providing more water during critical times of the year.	Wilderness designation would assure long-term protection of wildlife habitat for 180 mule deer and 325 antelope on the 22,440 acres of the study area. Bird and upland game habitat quality would be improved by providing more water at critical times of the year.	Twenty mule deer would be displaced from approximately 1,200 acres of habitat because of the elimination of forage and cover on areas disturbed by deep gas exploration and development, and because of their avoidance of human activity. Other wildlife would not be affected by deep gas exploration and development. Bird and upland game habitat quality would be improved by providing better water availability at critical times of the year.

Local Social and Economic Effects

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Pubic Comments

Inventory: Fifteen comments were received on this unit, three of which addressed other resource values which were analyzed for input in the multiple resource study phase of the wilderness review process. Five of the comments agreed with the proposed decision but did not provide a rationale as to why they agreed.

Four of the seven comments that specifically addressed wilderness identification characteristics were in favor of a Wilderness Study Area. Two of these comments were local and generally supported the proposed decision. The two nonlocal comments supporting WSA identification (one from out-of-state) also questioned the inventory determination of two routes as maintained roads and boundaries, and supported the addition of two areas that were deleted from the area recommended for designation as a result of the two roads. Subsequent analysis of evidence of use and maintenance on these routes has confirmed that their designation as roads and boundaries was appropriate.

The three comments that disagreed with the proposed decision were all local. The general rationale given by these comments was a fundamental disagreement with the intensive inventory findings and interpretations of naturalness and outstanding opportunity.

Additionally, two of the comments asserted that a vehicle way that had been determined to be an unmaintained two-track trail has been used and maintained by a local livestock firm in its winter grazing operations. Redesignation of this route would delete it as a one mile cherry-stem road extending into the unit; no additional area would be deleted from the portion of the unit identified as a WSA.

Draft EIS: The draft Grass Creek/Cody Wilderness Suitability EIS received a total of 181 letters and public hearing comments on the recommendation and analysis from individuals organizations, businesses, and 90-day public comment period (August 16, 1984 thru November 16, 1984). Two public hearings were held; one in Worland, Wyoming on September 18, 1984, and the other in Cody, Wyoming, on September 19, 1984. Six testimonies were received; two in Worland, and four in Cody. Four of the six testified in support of wilderness designation. The majority (158), of the comments favored wilderness designation.

Federal, State, and Local Agency Comments: Thirteen letters from state and federal agencies were received. Three letters expressed concern over the BLM's recommendations and the stated rationale. These letters were primarily concerned with the protection of desert badlands, scenic quality, and wilderness values. Eight letters from the state of Wyoming (including the Office of the Governor), concurred with the BLM's recommendations and two letters from federal agencies had no comment.

APPENDIX 1
ESTIMATED COST OF ACQUISITION OF NON-FEDERAL HOLDINGS
WITHIN AREAS RECOMMENDED FOR DESIGNATIONS [1]

Legal Description (Prior to any Subdivisional)	Total Acreage	Number of Owners (If Parcel has been Subdivided)	Type of Ownership by Estate (Federal, State, Private, other)		Presently Proposed for Acquisition (Yes, No)	Preferred Method of Acquisition (Purchase, Exchange other)	Estimated Cost of Acquisition	
			Surface Estate	Subsurface Estate			Land Costs	Processing Costs
T.48N.,R.97W. Section 16 and T.49N.,R.97W. Section 36	1,390	One	State of Wyoming	State of Wyoming	No	Exchange		

1 The standard costs in this appendix in no way represent a formal appraised value of the land in general estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

SHEEP MOUNTAIN
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 23,250 acres

The Sheep Mountain WSA (WY-010-130) includes 23,250 acres of BLM-administered public lands, and 640 acres of split estate lands (see table 1 and map). The WSA is located in Big Horn County approximately 20-25 miles northwest of Worland, Wyoming and 18-20 miles west of Greybull and Basin, Wyoming. State and private lands and the Burlington Pass Road form the western boundary of the WSA. The eastern boundary is along a major oil pipeline (right-of-way W-33151) and the Dorsey Creek Road. The southern boundary is located along the township line to exclude areas lacking the wilderness characteristic of naturalness and a finger of non-WSA created by roads accessing livestock management facilities. The northern boundary follows a road and an oil pipeline.

The WSA contains bare, rugged badlands created by peaks and ridges broken by irregular, sharply cut drainages radiating from the central portion of the area that is dominated by Sheep Mountain. The bare, red-hued soils of this area are highly eroded, creating a dissected, rugged landform. The area is dominated by the rugged badlands formed by irregular erosional and drainage patterns. There are no perennial streams. Sheep Mountain and the eastern-most portion of Tatman Mountain are the dominant topographic features. Sharply incised drainages radiate from these mountains and combine to form moderately broad, flat, grassy bottoms separated by rounded badland ridges along the perimeter of the unit. Elevations range from 5,900 feet on Tatman Mountain to 4,500 feet in the drainage bottom.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Grass Creek/Cody Wilderness Environmental Impact Statement (EIS) filed in August 1990. There were four alternatives analyzed in the EIS: All Wilderness (23,250 acres designated); Partial Wilderness (14,540 acres designated) (a.k.a. Conflict Reduction); Wilderness Enhancement (23,800 acres designated) (a.k.a. Wilderness Manageability); and No Wilderness (Proposed Action) (0 acres designated), which is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE - 0 acres recommended for wilderness
23,250 acres recommended for nonwilderness

No Wilderness is the recommendation of this report, resulting in the release of 23,250 acres for uses other than wilderness (map 1). All Wilderness is the environmentally preferable alternative as it would result in the least change in the natural environment.

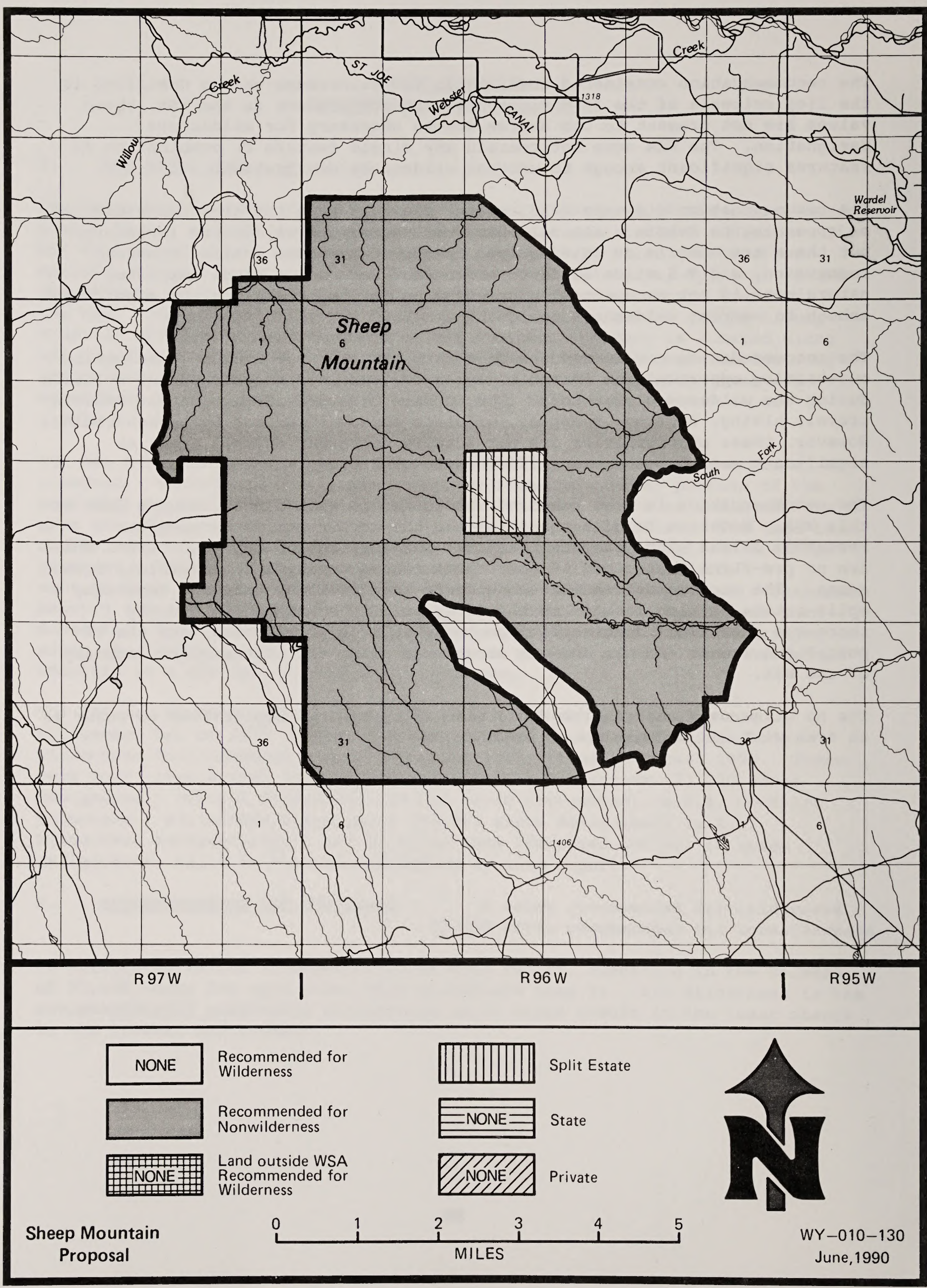
The recommendation considered that, while the wilderness values described in the 2(c) criteria of the 1964 Wilderness Act are present in the WSA, these values are not present to the degree deemed necessary for wilderness designation. The WSA does not contain any single feature or combination of features significant enough to warrant wilderness designation.

The recommendation did take into account the fact that the area was evaluated as appearing to retain a natural character during the wilderness inventory, but there are vehicle or seismograph, cherry-stem roads, trails, nineteen reservoirs, and 7.5 miles of fence segments. Because of these imprints, naturalness is not exceptionally pristine or unique, exemplary, or significant enough to warrant wilderness designation.

The recommendation considered the fact that the area was evaluated as having outstanding opportunities for primitive and unconfined recreation and solitude during the wilderness inventory. The terrain does provide a base for vehicle travel, hiking, hunting, trapping, wildlife observation, and horseback riding. However, these opportunities are not totally dependent on this area, or significant enough to warrant wilderness designation.

The recommendation is also based on the conflicts with other resource uses of this WSA. Moderate to high potential for the occurrence of hydrocarbon resources exists with moderate potential for exploration and production. There are no pre-FLPMA leases and 16 post-FLPMA leases covering approximately 5,055 acres. The recommendation also considered manageability concerns regarding a split-estate section located in the interior of the WSA, which greatly increases potential manageability problems arising from access, and the 25 post-FLPMA leases and oil and gas structures along the northeastern boundary of the WSA.

The no wilderness alternative would also allow mineral exploration to occur in an area with oil and gas potential.



Sheep Mountain Proposal

WY–010–130
June, 1990

Table 1
Land Status and Acreage Summary of the Sheep Mountain Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	22,610
Split Estate (BLM surface only)	640
Inholdings (State, Private)	0
Total	23,250
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	0
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	22,610
Split Estate	640
Total BLM land not recommended for wilderness	23,250
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. Naturalness: The area is dominated by the rugged badlands formed by the erosive action of wind and water on the shales and sandstones of the Willwood Formation. Sharp ridges and barren hills separate innumerable branches of the larger drainages. Elk Creek, Dorsey Creek, and Dry Creek are the main drainages; none of which are perennial streams.

The Sheep Mountain WSA appears to retain a minimally natural character, although there are impacts from intrusions such as vehicle and seismograph trails, nineteen reservoirs and 7.5 miles of fence. The impacts of these intrusions do not substantially detract from the natural character of the WSA because they are widely distributed and well screened.

B. Solitude: The Sheep Mountain WSA contains rugged badland topography. Size, screening, and configuration in the WSA provides opportunities for solitude. Public lands in this area typically receive low-use levels and solitude is the norm on the majority of public lands in the vicinity.

C. **Primitive and Unconfined Recreation:** The Sheep Mountain WSA and the rugged topography provide a resource base for a variety of primitive recreation opportunities, such as geologic sightseeing and collecting, hunting, trapping, photography, hiking and backpacking. These opportunities are not totally dependent on this area or unique. The network of ridges and drainages radiating from Sheep Mountain provides many isolated travel routes. The terrain is not so rugged as to significantly restrict or confine travel. The eroded badlands are highly scenic and add visual diversity.

D. **Special Features:** The Sheep Mountain contains limited supplemental values, including geologic and paleontologic resources and occasional use by wild horses. The WSA is located in the Willwood Formation and includes fossils from the Early Eocene Period such as Heplodon (mammal ancestral to tapirs) and Bunophows (Mammals ancestral to pigs).

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, As Represented by Ecosystems and Landforms:** Wilderness designation of this WSA would add a new ecosystem or landform to the NWPS. There currently are no representative BLM - administered wheatgrass-needlegrass shrub steppe vegetation classifications of the Wyoming Basin Province Ecoregion represented in the NWPS. A 17,000-acre area (Forest Service-administered North Absaroka Wilderness) represented by this ecosystem is included in the NWPS. This ecosystem is not represented under any other form of protective management.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province Wheatgrass-needlegrass shrub steppe	1	17,000	33	562,004
		WYOMING		
Dry Domain/Wyoming Basin Province Wheatgrass-needlegrass shrub steppe	1	17,000	5	81,408

B. **Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (5 hrs) of Major Population Centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Center	NWPS areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	442,409
Billings, Montana	12	4,808,142	54	3,460,477

C. **Balancing the Geographic Distribution of Wilderness Areas**: Designation of the Sheep Mountain WSA would not improve the balance of the geographic distribution of wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of Sheep Mountain Badlands would help to balance the opportunities to attain diverse wilderness experiences by adding a dry, "cold" desert badland area to the system and diversify ecosystem representation in the NWPS. Sheep Mountain is located close enough to towns in the Bighorn Basin that users would not have to travel great distances to visit the areas. In this respect, there is a geographic distribution benefit to designating Sheep Mountain. The majority of designated areas are typical USFS areas and do not offer ecosystem diversity or desert areas for recreationists, or long seasons free from snow.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The WSA is manageable as wilderness subject to the following concerns and potential conflict. A split-estate section is located in the interior of the WSA, which greatly increases potential manageability problems should energy development occur. The existing post FLPMA leases pose some manageability problems for the area, as well as the presence of oil and gas resources along the northeastern boundary of the WSA.

Energy and Mineral Resource Values

Potential for the occurrence of hydrocarbon resources is moderate (13,00-16,000 feet deep) and moderate potential exists for exploration and production. There are no pre-FLPMA leases and 15 post-FLPMA leases covering approximately 5,055 acres of the WSA. Thirteen leases will expire by December 1993, and two leases will expire by the end of October 1998, unless they are held by production on any part of the lease. One lease is currently being held by a producing unit.

Low potential exists for locatable and salable minerals. No known or suspected deposits of locatable minerals in economic quantities are within the WSA. Currently there are no mining claims in the WSA. Geologic formations known to contain economically valuable deposits of coal elsewhere in the Big Horn Basin occur in the subsurface beneath the study area. Their great depth (3,000 to 5,000 feet), poor grade, and local extent (lignite in the Tatman Formation) preclude any present economic consideration.

Impacts on Other Resources

The following comparative impact table (See Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	No Wilderness (Proposed Action)	All Wilderness	Conflict Reduction	Wilderness Manageability
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation would be eliminated and special values impaired on 26 acres. Additionally, solitude would be impaired on as many as 640 acres surrounding oil and gas development because of the sounds associated with deep gas exploration and development. Wilderness values would be retained in the remainder of the area because no impairing actions are anticipated.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured statutory protection on 23,250 acres. An increase of 320 visitor days per year is anticipated by the end of 20 years.	The Wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected by statute on 14,540 acres. The protection of those values would not be assured on 8,684 acres and would be lost on 26 acres. An increase of 320 visitor use days per year is expected over 20 years.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 23,800 acres. An increase of 320 visitor days per year is anticipated by the end of 20 years.
Exploration and Development of Leasable Minerals	Approximately 6 billion cubic feet of gas and 100,000 barrels of oil would be recovered from two wells drilled in the WSA on lands not covered by surface disturbance restrictions.	Wilderness designation would preclude the production of approximately 6 billion cubic feet of gas and 100,000 barrels of oil.	Approximately 6 billion cubic feet of gas and 100,000 barrels of oil would be recovered from two wells developed on lands not designated wilderness.	Wilderness designation would preclude the production of approximately 6 billion cubic feet of gas and 100,000 barrels of oil.
Water Quality	Sediment discharged into the Bighorn River via Fifteenmile Creek would increase by 40 tons per year. Current sediment loads of about 35,000 tons per year originate from within the WSA. The Big Pit Reservoir's useful life extended by ten years.	There will be no change in sediment loading into the Bighorn River. The Big Pit Reservoir's useful life would be extended by ten years.	Sediment discharged into the Bighorn River would increase by 40 tons per year. The WSA's current sediment load is about 35,000 tons per year. The Big Pit Reservoir's useful life would be extended ten years.	Sediment loads of about 35,000 tons per year into the Bighorn River would remain unchanged. Big Pitt Reservoir's useful life would be extended by ten years.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	No Wilderness (Proposed Action)	All Wilderness	Conflict Reduction	Wilderness Manageability
Wildlife Habitat and Populations	Twenty to thirty mule deer would be displaced on approximately 1,260 acres of habitat from the elimination of forage and cover on areas disturbed by deep gas exploration and development, and their avoidance of human activity. Other wildlife would be unaffected. Bird and upland game habitat would be enhanced by the installation of guzzlers.	Wilderness designation would assure long-term protection of wildlife habitat for 150 mule deer, 15 antelope, and up to 5 bighorn sheep on 23,250 acres. Bird and upland game habitat quality would be improved by providing better water availability during critical times of the year.	Twenty mule deer would be displaced from approximately 1,200 acres of habitat because of human activity. Deer use on 26 acres would be eliminated because of lost forage and cover on areas disturbed by oil and gas exploration and development. Other wildlife would be unaffected. Bird and upland game habitat would be enhanced by the installation of ten guzzlers.	Wilderness designation would assure long-term protection of wildlife habitat for 150 mule deer, 15 antelope, and up to 5 bighorn sheep on 23,800 acres. Bird and upland game habitat quality would be improved by providing more water during critical times of the year.

Local Social and Economic Effects

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Eleven comments were received on this unit. Only two comments were opposed to the proposed decision to establish a WSA, these comments cited other resource values and rationales other than wilderness characteristics for their opposition. Six of the comments in favor of the proposed decision were generally philosophical in nature or cited other resource values such as wildlife as rationales for agreement with the decision. Three comments specifically cited the unit's natural character and opportunities for primitive recreation and solitude in their support for the proposed designation. As a result of analysis of public comment, the final decision was to formally designate this unit, as described in the proposed decision, as a Wilderness Study Area.

Draft EIS: The Draft Grass Creek/Cody EIS received a total of 181 letters and public hearing comments on the recommendation and analysis from individuals organizations, businesses, and ninety-day public comment period (August 16, 1984 through November 16, 1984). Two public hearings were held; one in Worland, Wyoming on September 18, 1984, and the other in Cody, Wyoming on September 19, 1984. Six testimonies were received; two in Worland, and four in Cody. Four of the six testified in support of wilderness designation. The majority (150), of the comments favored wilderness designation.

Local, State, Federal Agencies. Thirteen letters from state and federal agencies were received. Three letters expressed concern over the Bureau's recommendations and the stated rationale. These letters were primarily concerned with the protection of desert badlands, scenic quality, and wilderness values. Eight letters from the state of Wyoming (including the Office of the Governor), concurred with the Bureau's recommendations and two letters from federal agencies had no comment.

RED BUTTE
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 11,350 acres

The Red Butte WSA (WY-010-131) is 11,350 acres of public land administered by the Bureau of Land Management (BLM). The WSA is located in Big Horn County approximately 15 miles northwest of Worland, Wyoming (see table 1 and map). All boundaries are located along improved dirt roads in an area of 100 percent blocked-up public land. The entire boundary except for approximately 1.5 miles of section line on the west side of the WSA, consists of dirt roads on BLM-administered public lands. Two segments of the unit boundary, a 1-mile long section in the northeastern corner and a 1-mile portion of the western boundary, were used because of human-made intrusions immediately outside of the boundaries formed by these segments.

The WSA contains bare, rugged badlands created by peaks and ridges broken by irregular, sharply cut drainages radiating from the central portion of the area that is dominated by Red Butte. The bare, red-hued soils of this area are highly eroded, creating a dissected, rugged landform. The northeastern portion exhibits less rugged badlands intermixed with a series of small bench-like terraces overlooking the flat drainage bottom of Fivemile Creek. This area exhibits a moderately dense cover of sagebrush-grass vegetation in contrast with the open ridges. In the western portion of the unit, the badlands open up to broad, shallow drainages and flat-to-rolling plains along the drainages of Reservoir Creek and the North Fork of Fifteenmile Creek. Vegetation in this portion of the unit is predominantly a saltbush-grass association.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Grass Creek/Cody Wilderness Environmental Impact Statement (EIS) filed in August 1990. There were three alternatives analyzed in the EIS: All Wilderness (11,350 acres), Wilderness Enhancement (a.k.a.: Wilderness Manageability) (10,250 acres), and No Wilderness. The No Wilderness Alternative is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE - **0 acres recommended for wilderness**
11,350 acres recommended for nonwilderness

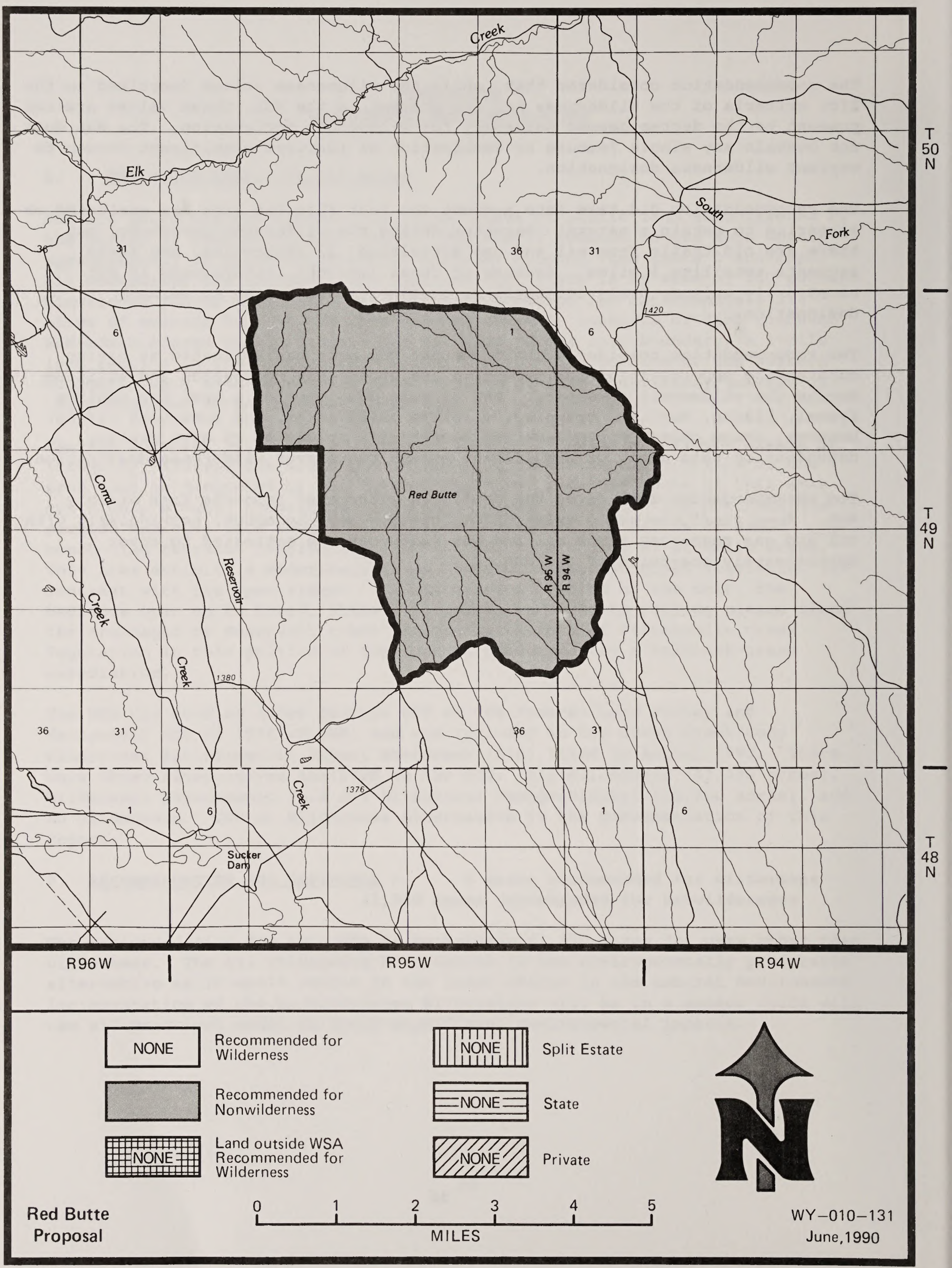
The recommendation for this WSA is to release 11,350 acres for uses other than wilderness. The All Wilderness Alternative is the environmentally preferable alternative as it would result in the least change in the natural environment. Implementation of the No Wilderness Alternative will be in a manner which will use all practical means to avoid significant environmental impacts.

The recommendation considered that, while the wilderness values described in the 2(c) criteria of the Wilderness Act are present in the WSA, these values are not present to the degree deemed necessary for wilderness designation. The WSA does not contain any single feature or combination of features significant enough to warrant wilderness designation.

The recommendation did take into account the fact that the area was evaluated as appearing to retain a natural character during the wilderness inventory, but there are old trails from oil and gas activities, 12 reservoirs, and fence segments totalling 5 miles. Because of these imprints, naturalness is not necessarily unique, truly outstanding, or significant enough to warrant designation.

The recommendation considered the fact that the area was evaluated as having outstanding opportunities for primitive and unconfined recreation and solitude during the wilderness inventory. The terrain does provide a base for vehicle travel, hiking, hunting, trapping, wildlife observation, and horseback riding; however, these opportunities are not necessarily unique or of high quality, dependent on this area, or significant enough to warrant wilderness designation.

The recommendation considered the conflicts with other resource uses of this WSA. Some conflicts would exist if designation were to occur, particularly with oil and gas resources since oil and gas resources are estimated to cover approximately one-third of the WSA.



Red Butte Proposal

WY–010–131
June, 1990

Table 1
Land Status and Acreage Summary of the Red Butte Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	11,350
Split Estate (BLM surface only)	0
Inholdings (state, private	0
Total	11,350
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	0
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	11,350
Split Estate	0
Total BLM land not recommended for wilderness	0
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. Naturalness: The study area consists of rugged, colorful badland ridges and peaks broken by irregular, sharply cut drainages. Red Butte dominates this central terrain at an elevation of 5,185 feet. The northeastern portion of the WSA exhibits less rugged badlands intermixed with a series of small, bench-like terraces overlooking Fivemile Creek. This area exhibits a moderately dense cover of sagebrush-grass vegetation in contrast with the bare, red-hued badland ridges. In the western portion, the badlands open up to broad, shallow drainages and flat-to-rolling plains.

The Red Butte WSA retains a minimal of natural character because of cumulative impacts from intrusions such as old seismograph trails and vehicle trails throughout the area, 5 miles of fence line extending through the eastern half, and 12 reservoirs scattered throughout the WSA. The wide dispersal of intrusions detract somewhat from the natural character of the WSA considering the relatively small size and the lack of an absolute pristine character.

B. **Solitude**: The Red Butte WSA offers an opportunity for solitude, which is enhanced by the badland topography and the isolated character, and provides an opportunity to avoid the presence of others. The winding drainages and steep ridges provide screening in the core of the unit. Opportunities for solitude are not dependent on the WSA or rated as exceptional for the immediate area or the region because the area is not highly unique or diverse, or exceptionally large.

C. **Primitive and Unconfined Recreation**: The varied terrain of the Red Butte WSA provides a resource base for a variety of primitive recreation opportunities such as geologic sightseeing, photography, backpacking, hiking, and horseback riding. Visitors hiking or exploring the area on horseback can enjoy the vivid colors and interesting erosional features.

Visitor use is limited (approximately 120 visitor use days per year) because of the area's remoteness and harsh weather.

D. **Special Features**: The Red Butte WSA contains supplemental values such as geological and paleontological values and includes specimens of an extremely rare arctogonoid (ancestral mammal to the modern hoofed mammals).

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as represented by Ecosystems and Landforms**: Wilderness designation of this WSA would add a new ecosystem or landform to the NWPS. There currently are no representative BLM-administered combination saltbush-greasewood and sagebrush steppe vegetation classifications of the Wyoming Basin Province Ecoregion presently included in the NWPS.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province/ Saltbush-greasewood and Sagebrush steppe	0	0	33	562,004
		WYOMING		
Dry Domain/Wyoming Basin Province/ Saltbush-greasewood and Sagebrush steppe	0	0	33	562,004

B. **Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (Five Hours) of Major Population Centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents of Major Population Centers

	NWPS areas		Other BLM Studies	
Population Center	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	609,271
Billings, Montana	12	4,808,142	54	3,472,377

C. **Balancing the Geographic Distribution of Wilderness Areas:** Designation of the Red Butte WSA would not improve the balance of the geographic distribution of wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (944,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres).

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The WSA is manageable as wilderness, however, management costs would be high due to the road access to the boundaries of the WSA.

Energy and Mineral Resource Values

The study area is located near the deepest structural part of the Bighorn Basin. The BLM estimated that there is moderately potential for the occurrence of hydrocarbon resources and moderate potential for exploration and production. Almost one-third of the WSA is in a known oil and gas area, the area is 60 percent leased, and adjacent to the Worland Anticline. A producing oil and gas field, the Dobie Creek field, is located less than five miles east of the WSA. Considerable geophysical exploration and some wildcat drilling have taken place in the immediate vicinity of the WSA in recent years. The Fivemile Field is a current area of high interest and activity. These efforts have not been adequate to allow definite conclusions to be drawn about the presence of producible oil and gas in the WSA. There are no pre-FLPMA leases and seven post-FLPMA leases covering approximately 1,315 acres in the WSA. These leases will expire by the end of 1993, unless they are held by production on any part of the lease.

Geologic formations known to contain economically valuable deposits, of coal elsewhere in the Bighorn Basin occur in the subsurface beneath the study area. However, their great depth (at least 4,000 to 5,000 feet) precludes any present economic interest. There is no known present or past production of locatable or salable minerals within the study area. No mining claims or mineral material sites exist in the WSA and none are anticipated.

Impact on Other Resources

The following comparative impact table (see table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	No Wilderness (Proposed Action)	All Wilderness	Wilderness Manageability
Wilderness Values	Deep gas exploration and development would eliminate the wilderness values of naturalness, solitude, and primitive and unconfined recreation on 13 acres. The sounds of that activity would impair naturalness and solitude in an area of 640 acres surrounding the development. Wilderness values would be retained in the remainder of the area because no impairing actions or increased visitor use are anticipated.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 11,350 acres. An increase of 180 visitor use days per year is anticipated by the end of 20 years.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be retained on all 11,350 acres because of wilderness designation and the absence of surface-disturbing projects. An increase of 180 visitor days per year is anticipated by the end of 20 years.
Exploration and Development of Leasable Minerals	Approximately 4 billion cubic feet of gas and 100,000 barrels of oil would be recovered from one well drilled in the WSA on lands not affected by environmental restrictions.	Wilderness designation would preclude the development of approximately 4 billion cubic feet of gas and 100,000 barrels of oil.	Wilderness designation would preclude the development of approximately 4 billion cubic feet of gas and 100,000 barrels of oil.
Water Quality	Sediment discharged into the Bighorn River would increase by 20 tons per year. Currently, natural sediment loads of 17,000 tons per year originate from within the WSA. The useful life of Jeanne's Reservoir would be extended by ten years.	Sediment loads of 17,000 tons per year into the Bighorn River would remain unchanged. The useful life of Jeanne's Reservoir would be extended by ten years.	Sediment loads of 17,000 tons per year into the Bighorn River would remain unchanged. The useful life of Jeanne's Reservoir would be extended by ten years.
Wildlife Habitat and Populations	Fifteen to twenty mule deer would be displaced from approximately 600 acres of habitat because of their avoidance of human activity. The elimination of forage and cover on areas disturbed by oil and gas exploration and development would cause a total loss of habitat on 13 acres. This is not considered significant when compared to the overall herd unit area. Other wildlife would be unaffected. Bird and upland game habitat quality would be improved with the addition of more water.	Wilderness designation would assure long-term protection of wildlife habitat for 100 mule deer and 50 antelope on 11,350 acres. Bird and upland game habitat quality would be improved by providing better water availability during critical times of the year.	Wilderness designation would assure long-term protection of wildlife habitat for 100 mule deer and 50 antelope on 10,250 acres, but would not assure protection on 1,100 acres. However, habitat condition would be retained on those 1,100 acres. Bird and upland game habitat would be improved by the addition of water.

Local Social and Economic Effects

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Eleven comments were received on this unit. Two comments, which addressed issues other than wilderness characteristics, disagreed with the proposed Wilderness Study Area designation. Seven of the nine comments in favor of the proposed decision stated other resource values or did not give a rationale for their agreement. Two comments addressed the specific characteristics of the unit in their support of the proposed designation. The decision to designate the unit as a Wilderness Study Area was made based on this public input.

Draft EIS: The draft Grass Creek/Cody Wilderness EIS received a total of 181 letters and public hearing comments on the recommendation and analysis from individuals organizations, businesses, and the 90-day public comment period (August 16, 1984 through November 16, 1984). Two public hearings were held; one in Worland, Wyoming on September 18, 1984, and the other in Cody, Wyoming on September 19, 1984. Six testimonies were received; two in Worland and four in Cody. Four of the six testified in support of wilderness designation. The majority (150) of the comments favored wilderness designation.

Local, State, Federal Agencies: Thirteen letters from state and federal agencies were received. Three letters expressed concern over the BLM's recommendations and the stated rationale. These letters were primarily concerned with the protection of desert badlands, scenic quality, and wilderness values. Eight letters from the state of Wyoming (including the Office of the Governor), concurred with the BLM's recommendations and two letters from federal agencies had no comment.

MCCULLOUGH PEAKS
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 25,210 acres

The McCullough Peak WSA (WY-010-335) includes 23,290 acres of BLM lands, 640 acres of split estate lands, and 640 acres of state-owned lands (see table 1 and map). The WSA is located in Park County, 10 miles northeast of Cody, Wyoming and 8 miles south of Powell, Wyoming. The boundary along the western portion of the WSA is located on a gas field service dirt road (BLM route 1211). A combination of private land and a dirt road establish the southern and eastern boundaries. The northern boundary is located mostly along section lines and a major power line which forms 2 miles of this boundary.

The WSA consists of the badlands which form the north slope of the McCullough Peaks. The terrain is characterized by sharp ridges and deeply eroded drainages. The five major drainages are: Deer Creek, Willwood Draw, Roan Wash, and the north and west branches of Whistle Creek. Elevations vary from 6,400 feet at the McCullough Peaks to 4,000 feet in the northeast corner of the study area. There are no perennial streams.

Vegetation in this badland WSA is a sagebrush/saltbush/grass association. Riparian vegetation (such as cottonwoods and willows) grow along the major drainages. It has been estimated that 15 to 20 wild horses populate the McCullough Peaks WSA.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Grass Creek/Cody Wilderness Environmental Impact Statement (EIS) filed in August 1990. There were five alternatives analyzed in the EIS: All Wilderness (25,210 acres designated), No Wilderness, Partial Wilderness I (aka: Conflict Reduction I) (23,580 acres designated), Partial Wilderness II (Proposed Action) (aka: Conflict Reduction II) (8,020 acres designated), and Wilderness Enhancement (aka: Wilderness Manageability) (29,590 acres designated).

2. RECOMMENDATION AND RATIONALE - 8,020 acres recommended for wilderness
16,550 acres recommended for nonwilderness

The recommendation for this WSA is to designate 8,020 acres as wilderness and release 16,550 acres for uses other than wilderness. All Wilderness is considered to be the environmentally preferable alternative as it would result in the least change from the natural environment over the long term. However, the Partial Wilderness II alternative would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

The following points were key considerations in recommending the suitable portion of the WSA for wilderness.

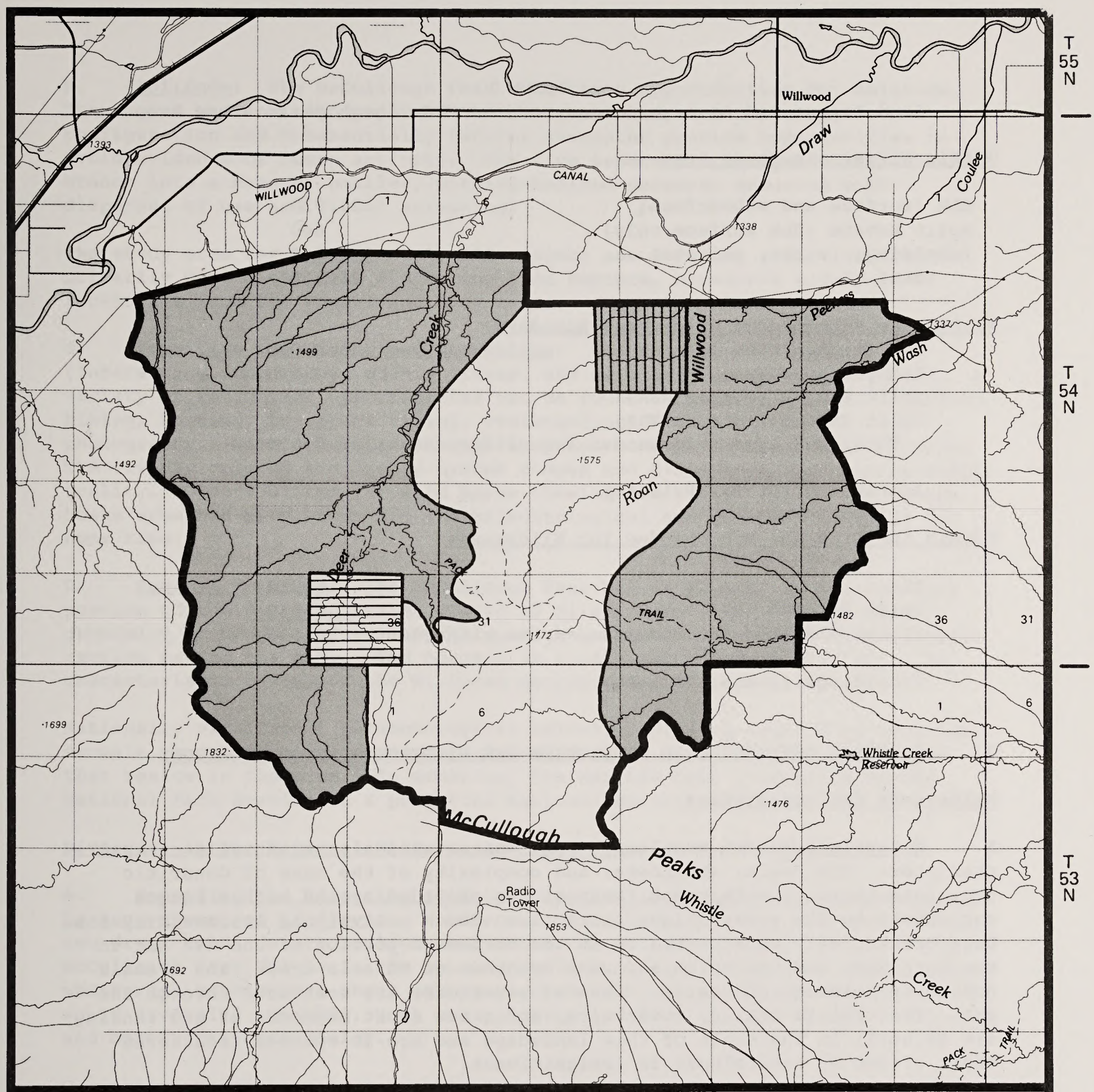
The recommendation for the suitable portion of the WSA was based partly on the fact that the WSA is classified as a sagebrush steppe and/or wheatgrass-needlegrass shrub steppe within the Wyoming Basin Ecoregion. Presently, this combined ecosystem is not represented by BLM administered land in the National Wilderness Preservation system. A portion (17,000 acres) of the Forest Service-administered North Absaroka Wilderness consists of this ecosystem and is included in the NWPS.

The WSA is natural in appearance and provides an outstanding resource base for wilderness-dependent opportunities and experiences. There are a few imprints in the area but they do not substantially detract from the natural character of the area. This natural setting of remote rugged badland topography challenges the recreationist seeking a primitive, non-motorized type experience, as well as providing outstanding opportunities for solitude.

The recreational opportunities in the WSA are exceptional. The area provides opportunities for sightseeing, hiking, hunting, rockhounding, trapping, wildlife observation, photography, and horseback riding.

Conflicts with other resources and uses are minimized. Grazing use will be allowed to continue. No forestry or timber values exist. The suitable portion contains a more logical physical boundary and was adjusted to reduce conflicts with established motorized use and the potential for development of oil and gas resources. Oil and gas potential in the area recommended suitable is lower than the surrounding area. Motorized and mechanized (that is, mountain bikes) recreation use within the suitable recommendation would be curtailed by wilderness designation, possibly affecting some trapping, hunting, rockhounding, and ORV or mountain bike use, but this is thought to be insignificant since only a minor disruption or displacement of motorized recreation is anticipated.

The recommendation for the nonsuitable portion of the WSA (16,550 acres) was based on the need to alleviate conflicts with vehicular access to rockhounding areas in the eastern portion of the WSA; the open, gentle terrain which would be difficult to manage; and an analysis of anticipated mineral production and associated manageability concerns.



Recommended for Wilderness

Recommended for Nonwilderness

Land outside WSA Recommended for Wilderness

Split Estate

State

Private

McCullough Peaks Proposal

WY–010–335
June, 1990

Table 1
Land Status and Acreage Summary of the McCullough Peaks Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	23,930
Split Estate (BLM surface only)	640
Inholdings (state, private)	640
Total	25,210
Within the Recommended Wilderness Boundary	
BLM (within WSA)	8,020
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	8,020
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	15,910
Split Estate	640
Total BLM land not recommended for wilderness	16,550
Inholdings (State, Private)	640

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness**: The McCullough Peak WSA retains a substantially natural character. The scale, steepness, and complexity of the maze of dendritic drainages together with the distant vistas provided by the higher ridges contribute to the areas unique character. Human activity is evidenced by the Deer Creek trail, vehicle trails in the northwest portion of the WSA and in the Roan Wash and the north and west branches of Whistle Creek, and a small number of seismograph trails. Several reservoirs are scattered through the WSA. The vehicle trails, reservoirs, and a few short segments of gap fencing are so small in the scale of this landscape and are so sparsely scattered their effect on naturalness is insignificant.

The dendritic drainage patterns and substantial terrain variation within the WSA provide ample natural screening throughout. This topographic diversity enhances the naturalness of the WSA and provides many interesting views and scenic vistas.

B. **Solitude**: The McCullough Peak WSA offers opportunities for solitude. The rugged badland topography of the unit combined with its size, configuration and substantially natural character provide opportunities to avoid evidence of human activity. The five separate drainages within the WSA branch into a maze of smaller, winding badland canyons; ensuring both dispersal of use and visual screening.

The study area has approximately 500 visitor use days per year, occurring primarily during the fall and spring from hunters, horseback riders, and rockhounds from the Powell and Cody areas.

C. **Primitive and Unconfined Recreation**: The WSA has attributes (interesting topography, scenic vistas, and wildlife) that attract people. A variety of recreation opportunities can be found throughout the WSA including hiking, hunting, horseback riding, rockhounding, nature study, and photography. Game populations support upland bird and limited deer hunting. The vividly colored and highly eroded ridges and hills have outstanding scenic quality. Opportunities for wild horse viewing are present. The McCullough Peaks area has been known for its paleontological and geologic interest for some time.

D. **Special Features**: The McCullough Peak WSA is located in the northern portion of the Big Horn Basin, within 10 miles of Cody and Powell. The proximity to Cody and Powell are a special benefit to the local recreationist wanting to use the area. The terrain is highly scenic and rugged with the characteristic colors of the Willwood geologic formation.

Nationally significant paleontological values, including fossils of reptiles, mammals, and birds are common within the area, as are 15 to 20 wild horses that reside in the area. In addition, the WSA has been identified by the National Park Service as a potential National Natural Landmark.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms**: Wilderness designation of this WSA would add a new dry, "cold" desert badland area ecosystem or landform to the NWPS. The McCullough Peak WSA is in the Wyoming Basin Ecoregion, sagebrush steppe and/or wheatgrass needlegrass shrub steppe vegetation class. This new ecosystem would diversify the NWPS, both ecologically and from a recreational experience and opportunity standpoint.

Currently, there is only one other representative sagebrush steppe and(or) wheatgrass-needlegrass shrub steppe vegetation class (17,000 acres of the Forest Service-administered North Absaroka Wilderness) within the Wyoming Basin Province Ecoregion in the NWPS.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province/ wheatgrass-needlegrass shrub steppe	1	17,000	5	73,348
		WYOMING		
Dry Domain/Wyoming Basin Province/ wheatgrass-needlegrass shrub steppe	1	17,000	5	73,348

B. Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (5 Hrs.) of Major Population Centers: The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Center	NWPS areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	440,449
Billings, Montana	12	4,808,142	54	3,458,517

C. Balancing the Geographic Distribution of Wilderness Areas: Designation of the McCullough Peaks as wilderness would not improve the balance of the geographic distribution of wilderness. However, designation of the WSA would add a dry, "cold" desert badland area to the system and help diversify ecosystem representation in the NWPS. The WSA is located close enough to towns in the Bighorn Basin that users would not have to travel great distances to visit the area. In this respect, there is a geographic distribution benefit to designation. Currently, there are over 4 million acres of

designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres).

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The recommended suitable portion of the study area is manageable as wilderness. The nonsuitable portion of the study area is also manageable as wilderness, although extensive management actions such as public education, route closures, enforcement, signing, and compliance control will be needed. Reasons for deleting portions of the WSA under the Partial Wilderness II Alternative are: (1) to retain motorized access to historic rockhounding areas; and (2) the difficult manageability problems near the eastern and central boundaries because of ORV conflicts, lack of definable boundaries; and known oil and gas reserves on the eastern side.

Energy and Mineral Resource Values

The U.S. Geological Survey and U.S. Bureau of Mines conducted a mineral assessment of the McCullough Peaks WSA in 1986 (U.S. Geological Survey Bulletin 1756-F1990). The results of that report provide the basis for the following discussion.

The U.S. Geological Survey and the U.S. Bureau of Mines consider the potential for the occurrence of oil and gas beneath the WSA as high with moderate potential for exploration and development. With the Conflict Reduction II Alternative (Proposed Action) (partial wilderness, 8,020 acres), there are no pre-FLPMA and one post-FLPMA oil and gas lease that covers approximately 80 acres in the McCullough Peaks WSA. The east side of the WSA is within known oil and gas reserves.

No known or suspected deposits of locatable minerals in economic quantities are within the WSA. "One coal prospect was found along Dear Creek, but the coal is thin and is enclosed mostly by shale. Based on examination of the Deer Creek prospect and surface inspection of the entire study area, coal resources are estimated to be low. However,. on the basis of subsurface acoustic and density log data, the sum of measured and indicated subbituminous coal resources beneath the study area is estimated to be 52 million tons." The potential for any energy or critical mineral resources within the recommended alternative is considered to be low by the BLM. Currently, there are no mining claims within the recommended alternative and potential is low for locatable and salable minerals.

Impacts on Other Resources

The following comparative impact table (see Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Conflict Reduction II (Proposed Action)	Conflict Reduction I	All Wilderness	Wilderness Manageability	No Wilderness
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 8,020 acres because of wilderness designation. In the remainder of the WSA, wilderness values would be lost on approximately 4,000 acres because of deep gas exploration and development, and because of ORV activity in the Deer Creek, Roan Wash, and Whistle Creek areas, and the northwest portion of the WSA. Although not assured, wilderness values would likely be retained on approximately 11,500 acres where no impairing activities are anticipated. An increase of 125 visitor use days per year is anticipated.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 22,940. On 640 acres of split estate land, protection cannot be assured. Wilderness values would be impaired or lost on the remaining 1,630 acres.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 24,570 acres. The values on the 640 acres of split estate are not expected to be affected, but protection cannot be assured.	Wilderness values including naturalness, solitude, and primitive and unconfined recreation, and special values, would be assured protection on 28,950 acres. The protection of those values on the 640-acre split estate section is expected, but no assured. Solitude would be lost on the 1,630 acres on the north side of the WSA.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation would be eliminated on up to 1,280 acres. Solitude would be impaired on 3,630 acres in the northwestern and eastern portions of the WSA. Special values would continue to be protected. Wilderness values would likely remain unchanged on the remaining 20,300 acres of the WSA.

TABLE 4 (Continued)
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Conflict Reduction II (Proposed Action)	Conflict Reduction I	All Wilderness	Wilderness Manageability	No Wilderness
Exploration and Development of Leasable Minerals	Approximately 2 billion cubic feet of gas and 5,000 barrels of oil would be recovered from two wells developed on lands not designated wilderness, where drilling is not precluded by environmental restrictions.	Wilderness designation would preclude the production of approximately 2 billion cubic feet of gas and 5,000 barrels of oil.	Wilderness designation would preclude the production of approximately 2 billion cubic feet of gas and 5,000 barrels of oil.	Wilderness designation would preclude the production of approximately 2 billion cubic feet of gas and 5,000 barrels of oil.	Approximately 2 billion cubic feet of gas and 5,000 barrels of oil would be recovered from two wells drilled in the WSA on lands not affected by restrictions.
Recreational Off-Road Vehicle Use	Recreational ORV use would be allowed on approximately 20 miles of designated vehicle routes in the WSA. Access to rockhounding areas and popular ORV touring areas would remain available and use would continue at 300 visitor use days per year.	Approximately 200 visitor use days per year of ORV touring, hunting, and rockhounding opportunities would be eliminated from the eastern portion of the WSA. The 100 annual visitor use days of recreational ORV touring in the northwestern portion of the WSA would be unaffected.	Wilderness designation would eliminate motor vehicle use of approximately 300 visitor use days per year associated with ORV touring, hunting, and rockhounding.	Wilderness designation would eliminate approximately 200 visitor use days per year of ORV touring, hunting and rockhounding in the study area.	Recreational ORV use of 300 visitor use days per year in the WSA would remain unchanged.
Water Quality	Sediment discharged into the Shoshone River would increase by 40 tons per year. Current naturally occurring sediment loads of about 38,000 tons per year originate from within the WSA.	Fencing will maintain water quality by preventing additional sediment loading into the Shoshone River. Sediment loads of about 38,000 tons per year into the Shoshone River would remain unchanged.	Fencing will maintain water quality by preventing additional sediment loading into the Shoshone River. Sediment loads of about 38,000 tons per year into the Shoshone River would remain unchanged.	Fencing will maintain water quality by preventing additional sediment loading into the Shoshone River. Sediment loads of about 38,000 tons per year into the Shoshone River would remain unchanged.	Sediment discharged into the Shoshone River would increase by 40 tons per year. Current sediment loads of about 38,000 tons per year originates from within the WSA.

TABLE 4 (Continued)
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Conflict Reduction II (Proposed Action)	Conflict Reduction I	All Wilderness	Wilderness Manageability	No Wilderness
Wildlife Habitat and Populations	Wilderness designation would assure long-term habitat protection on 23,580 acres. Development is not expected on the remaining 1,630 acres; therefore, wildlife habitat values would be protected.	Twenty-five mule deer would be displaced on approximately 1,260 acres of habitat from the elimination of forage and cover on areas disturbed by deep gas exploration and development, and their avoidance of human activity. This displacement would occur on WSA lands not suitable for wilderness designation.	Wilderness designation would assure long-term wildlife habitat protection on 24,570 acres. No impacts on or displacement of deer, sage grouse, or raptors would be expected.	Wilderness designation would assure long-term protection of wildlife habitat on 28,950 acres. All wildlife, especially game animals, would benefit in the long term from improved security.	Twenty-five mule deer would be displaced on approximately 1,260 acres of habitat from the elimination of forage and cover on areas disturbed by deep gas exploration and development. These 25 displaced mule deer can easily be accommodated in areas not disturbed by gas exploration.
Livestock Grazing	There would be an improvement in livestock distribution and an enhancement of riparian areas in the Roan Wash and Deer Creek drainages because of anticipated range improvement projects. Current livestock grazing use allocation levels of 1,742 AUMs would continue.	Current livestock grazing use allocation levels of 1,742 AUMs would be maintained. Riparian areas in Deer Creek would be protected. The opportunity to provide better distribution of livestock and wild horses in the Roan Wash drainage would be foregone.	Current livestock grazing use allocation levels of 1,742 AUMS would be maintained. Riparian areas in Deer Creek would be protected. The opportunity to provide better distribution of livestock and wild horses would be foregone in the Roan Wash drainage.	Current livestock grazing use allocation levels of 2,114 AUMs would be maintained in the designated area. Riparian areas in Deer Creek would be protected. The opportunity to provide better distribution of livestock and wild horses would be foregone in the Roan Wash drainage.	Range development projects would improve livestock distribution and enhance riparian areas in the Roan Wash and Deer Creek drainages. Livestock grazing use allocations will remain at 1,742 AUMs.

Local Social and Economic Effects

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA Specific Public Comments

Inventory: A total of 51 comments were received on this unit. Approximately two-thirds of these comments came from local residents. Only seven were from outside the State of Wyoming. Of the 16 responses expressing disagreement with the proposed decision, 11 based their position on a general opposition to wilderness designation or on concerns regarding resource use conflicts.

Five respondents disagreeing with the proposed decision were of the opinion that the unit lacked naturalness or outstanding opportunities. Twenty-two local residents and six from other areas of Wyoming favoring the proposed decision were generally philosophical in nature or cited other resource values such as wildlife as rationales for agreement with the decision. Several comments specifically cited the unit's natural character and opportunities for primitive recreation and solitude in their support for the proposed designation. As a result of analysis of public comment, the final decision was to formally designate this unit, as described in the proposed decision, as a Wilderness Study Area.

In the Cody Resource Area a planning update was accomplished examining only the issue of potential wilderness designation of the McCullough Peaks WSA. In the course of this update, individual BLM staff members made a number of contacts with interested individuals or groups, and an open house public meeting was held in the Cody Resource Area office on November 17, 1984. Letters requesting comments were also sent to the same types of interested organizations and individuals that received the Grass Creek letter. The responses obtained were considered in selecting the EIS alternatives for the McCullough Peaks area.

Draft EIS: The Draft Grass Creek/Cody EIS received a total of 181 letters and public hearing comments on the recommendation and analysis from individuals organizations, businesses, and ninety-day public comment period (August 16, 1984 thru November 16, 1984). Two public hearings were held; one in Worland, Wyoming on September 18, 1984, and the other in Cody, Wyoming on September 19, 1984. Six testimonies were received; two in Worland, and four in Cody. Four of the six testified in support of wilderness designation. The majority (150), of the comments favored wilderness designation.

Local, State, Federal Agencies - Thirteen letters from state and federal agencies were received. Three letters expressed concern over the BLM's recommendations and the stated rationale. These letters were primarily concerned with the protection of desert badlands, scenic quality, and wilderness values. Eight letters from the State of Wyoming (including the Office of the Governor), concurred with the BLM's recommendations and two letters from Federal agencies had no comment.

HONEYCOMBS
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 21,000 acres

The Honeycombs WSA (WY-010-221) is located in Washakie County, sixteen miles southeast of Worland (see Map). The WSA contains 21,000 acres of BLM-administered lands, and 260 acres of split-estate lands (see table 1) with minerals held by the state of Wyoming. The WSA is bounded on the north and east by the BLM's Blue Bank improved dirt road, state, and private lands. The southern and western boundaries are two-track trails, one section of state lands and Nowater Creek (See Map 1).

The Honeycombs WSA consists of sharply eroded, strongly dissected badlands and rolling to steep hills. Elevations in the unit range from about 5,000 feet to about 4,400 feet where the western boundary crosses the East Fork of Nowater Creek. Sagebrush and grasses are the most common vegetation. Drainages exhibit substantially more greasewood and scattered rabbitbrush, leaving most hillsides and ridge tops sparsely vegetated.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Washakie Wilderness Environmental Impact Statement (EIS) filed in November 1990. There were three alternatives analyzed in the EIS: All Wilderness (21,000 acres); No Wilderness (Proposed Action); and Wilderness Enhancement (22,036 acres). The No Wilderness Alternative is the recommendation of this report.

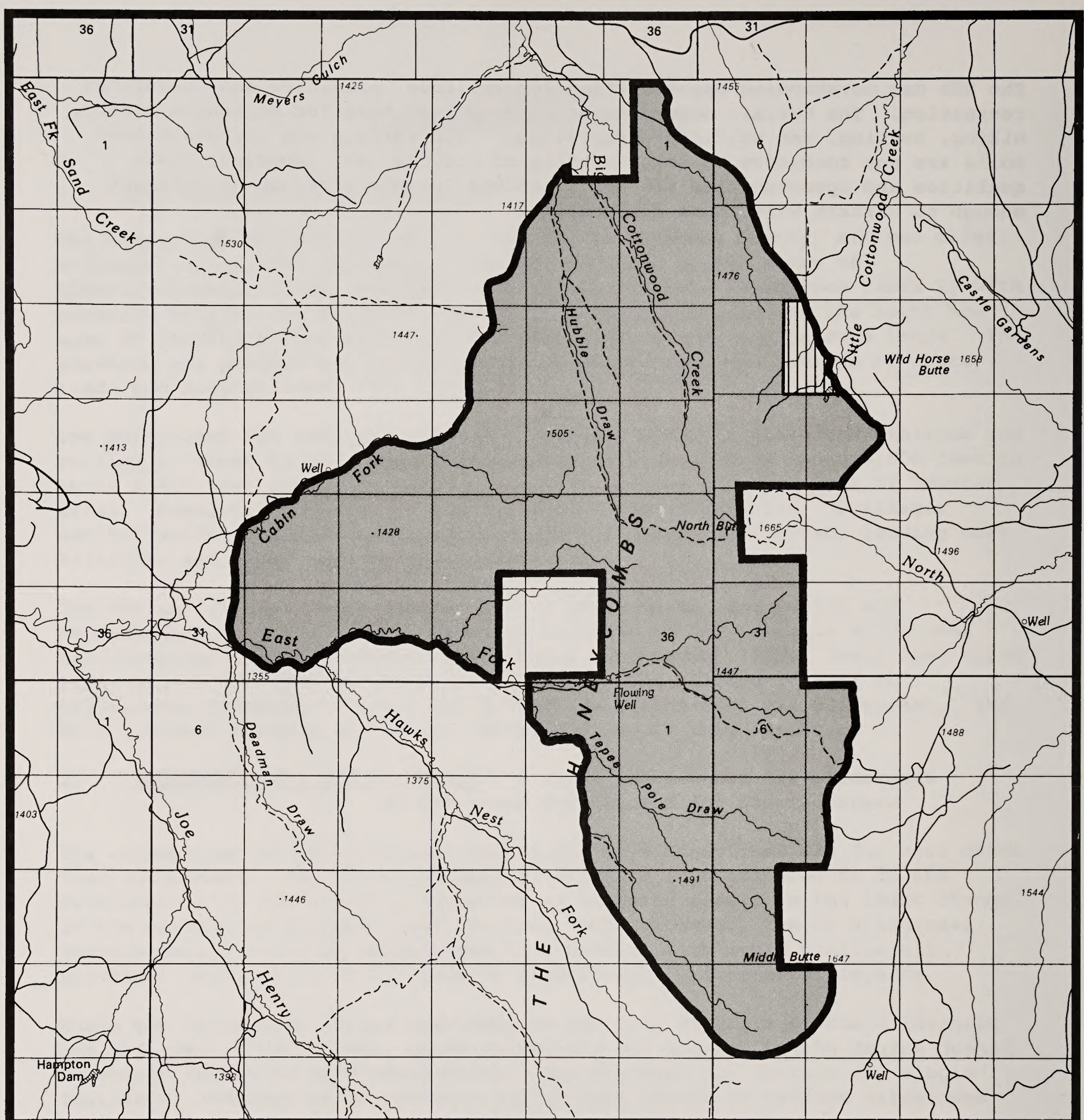
2. RECOMMENDATION AND RATIONALE - 0 acres recommended for wilderness
21,000 acres recommended for nonwilderness

The recommendation is to release the 21,000-acre Honeycombs WSA for uses other than wilderness. The All Wilderness Alternative is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment over the long term. However, the No Wilderness recommendation would be implemented in a manner which would utilize all practical means to avoid or minimize significant environmental impacts.

While the wilderness values described in the 2(c) criteria of the Wilderness Act are present in the WSA, these values are not present to the degree deemed necessary for wilderness designation. The WSA does not contain any single feature or combination of features significant enough to warrant wilderness designation.

While, the overall impact on the naturalness of the WSA is slight, the miles of bladed trails and the 21 reservoirs reduces the naturalness to a point where it is not necessarily unique, truly outstanding, or significant enough to warrant designation.

The WSA has outstanding opportunities for solitude, primitive and unconfined recreation. The terrain does provide an excellent base for horseback riding, hiking, hunting, and wildlife observation. The terrain and its associated soils are not conducive to motor vehicle or bicycle use. However, these qualities and opportunities are not dependent on this area, or significant enough to warrant wilderness designation.



NONE	Recommended for Wilderness		Split Estate
	Recommended for Nonwilderness	NONE	State
NONE	Land outside WSA Recommended for Wilderness	NONE	Private

0 1 2 3 4 5
MILES

Honeycombs Proposal

WY–010–221
June, 1990

Table 1
Land Status and Acreage Summary of the Honeycombs Study Area

Within the Wilderness Study Area	
BLM (surface and subsurface)	20,740
Split Estate (BLM surface only)	260
Inholdings (State, Private)	0
Total	21,000
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	0
Within the Area Not Recommended for Wilderness	
BLM	20,740
Split Estate	260
Total BLM land not recommended for wilderness	21,000
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness**: The Honeycombs consists of two land forms. The core area is comprised of sharply eroded, strongly dissected badlands. The area around the core is rolling to steep hills. Elevations in the WSA range from about 5,000 feet above sea level along the eastern boundary to about 4,400 feet where the western boundary crosses East Fork Nowater Creek.

The density of vegetation decreases as the badland topography becomes more prevalent. Sagebrush and grasses are the most common vegetation. Drainages exhibit substantially more greasewood and scattered rabbitbrush, leaving most hillsides and ridge tops sparsely vegetated.

The overall impact of intrusions on the naturalness of the WSA is slight. Surface disturbance by humans is substantially unnoticeable because of their dispersal, their size, the natural screening provided by very rugged terrain, and the natural healing of scars through erosion and revegetation.

The most common human-made features in the WSA are bladed trails and reservoirs. The majority of these trails are the result of oil and gas exploration during and prior to the 1960s. Others undoubtedly resulted from reservoir construction which was intensively undertaken in the early 1960s. As a result of time, the erosive nature of the soil and natural revegetation, most of these trails are not usable by motor vehicles. Those that remain are used by ranchers and recreationists to access reservoirs and fence lines.

Twenty-one reservoirs are located in the WSA, they range in size from small stockponds to substantial catchments that may approach an acre in area with dikes up to 200 feet long. Many of the reservoirs were dry at the time of the intense inventory, but a surprising number held water with seemingly little maintenance.

B. **Solitude**: Honeycombs WSA contains outstanding opportunities for solitude. Much of the WSA is rugged sharply eroded, strongly dissected badlands. Solitude exists because of limited use within the WSA and its size. Livestock grazing and most forms of recreation use are seasonal. Oil and gas activity is common around the perimeter of the WSA, but has not penetrated the interior of the WSA.

C. **Primitive and Unconfined Recreation**: Honeycombs WSA contains outstanding opportunities for primitive and unconfined recreation which range from passive activities to those requiring much physical exertion and endurance. The opportunities for trapping furbearers and hunting deer and antelope are widespread in the WSA. The quality of deer hunting is greater because the topography and vegetation creates habitat more favorable to deer. Outstanding opportunities for solitude exist because the rugged terrain, steep-sided hills, and winding drainages limit sight distances.

Resources in the WSA also support passive activities such as nature study, photography, rockhounding, bird watching, reflection and contemplation, and sightseeing. The colorful and heavily eroded Willwood Formation provides an excellent opportunity for geologic study.

D. **Special Features**: The exposures of the Willwood Formation provide an excellent opportunity to study scenic erosional patterns. The soil colors vary from reds, pinks, and purples to numerous shades of browns and tans. The badland character of most of the WSA, with its abrupt topographic changes, increases the visual interest of the area. The area is also known to have the potential for deposits of large mammalian fossils from the Tertiary Period.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms:** Wilderness designation of this WSA would not add to the ecosystem diversity currently in the NWPS. The Honeycombs WSA is representative of the Sagebrush Steppe ecosystem in the Dry Domain/Wyoming Basin Province ecoregion. The Sagebrush Steppe ecosystem is the potential natural vegetation representation classification for this WSA. Sixteen other study areas currently represent this ecosystem. Several of these have been recommended as suitable for wilderness designation including the Medicine Lodge, Alkali Creek and Trapper Creek WSAs. Within this ecoregion, a portion of the Cloud Peak Wilderness represents 27,125 acres of the sagebrush steppe ecosystem. This information is summarized in table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province/Sagebrush Steppe	1	67,026	15	209,031
		WYOMING		
Dry Domain/Wyoming Basin Province/Sagebrush Steppe	1	67,026	15	209,031

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Days Driving Time (Five Hours) of Major Population Centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Center	NWPS areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	440,449
Billings, Montana	12	4,808,142	54	3,462,727

C. **Balancing the Geographic Distribution of Wilderness Areas**: Designation of Honeycombs as wilderness would not improve the balance of the geographic distribution of wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of the WSA would add a dry, "cold" desert badland area to the system and diversify ecosystem representation in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The WSA is manageable as wilderness. There are no private inholdings or mining claims currently in the WSA. While the WSA does have a moderate potential of oil and gas development, exploration to date has not discovered any substantial reserves. Only one active well is currently working and several oil fields have been shut-in within a couple of miles of the WSA. Existing ORV use along bladed trails and open slopes could easily reduce or eliminate the BLM's ability to maintain existing levels of solitude and scenic values. However, the erosive nature of the soils, and natural revegetation would act to reduce the impacts returning the WSA to its natural state. Maintenance of existing reservoirs would cause a conflict through the use of heavy equipment that would be "walked" into a reservoir. Impacts would include the creation of low water crossings and placement of sediments from the maintenance work.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines prepared a mineral assessment for the Honeycombs WSA in 1988 (U.S. Geological Survey Bulletin 1756-C). That assessment is the primary source for the following discussion.

Three wells have been drilled in the WSA and over 100 wells have been drilled within 3 miles of the WSA. All of the wells in the WSA and all but two wells outside the WSA were dry. Several wells in the area, including one of the wells in the WSA, have had shows of oil. These are trace amounts of oil in the well bore and do not indicate producible amounts of oil.

There is considered to be moderate potential for the discovery of coal deposits which is based on four adjacent historic underground coal mines and the presence of coal seams encountered by a BLM drilling program at two adjacent locations. It is not anticipated that these coal deposits will be developed because of their marginal quality and high development costs.

The Honeycombs WSA is considered to have moderate potential for the discovery of titanium, niobium, tantalum, and rare earth elements (of critical and strategic national concern) in black sandstone. The largest black sandstone deposit in Wyoming is located about 3 miles southeast of the WSA. Similar sandstone deposits are suspected in the WSA. Titanium, niobium, and tantalum are important alloying metals but they are currently more economical to mine

elsewhere. Existing information projects titanium to be of little economic interest. The rare earth elements have potential for super-conductor fabrication but no black sands in Wyoming have been systematically examined for them. The WSA lands do not contain any mining claims.

There are no recognized salable mineral values in or adjacent to the WSA. The potential for salable minerals in the WSA is low.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	No Wilderness (Proposed Action)	All Wilderness	Wilderness Enhancement
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation would be temporarily lost on up to 1,750 acres. Special values would continue to be protected. Wilderness values would likely remain unchanged on the remaining 19,250 acres of the WSA.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 21,000 acres. The values on the 260 acres of split estate are not expected to be affected, but protection cannot be assured.	Wilderness values including naturalness, solitude, and primitive and unconfined recreation, and special values, would be assured protection on 21,776 acres. The protection of those values on the 260-acre split estate tract is expected, but not assured.
Mineral Exploration and Production	Since recovery of oil and gas resources is not expected, there will be no effect on mineral production.	Wilderness designation would preclude exploration for oil or gas resources on 21,000 acres.	Wilderness designation would preclude exploration activity for oil and gas on 21,776 acres, however, no impact is expected as no production is anticipated.
Recreational Off-Road Vehicle Use	Recreational ORV use of 450 visitor use days per year in the WSA would remain unchanged.	Wilderness designation would displace motor vehicle use of approximately 100 visitor use days per year associated with recreational ORV use.	Wilderness designation would eliminate approximately 100 visitor use days per year of ORV touring, hunting, and rockhounding in the study area.
Water Quality	Sediment discharged into the Bighorn River would increase by 34 tons per year. Current sediment loads of about 32,000 tons per year originates from within the WSA.	Fence, well, and reservoir maintenance will cause no additional sediment loading into the Bighorn River. Naturally occurring sediment loads from the WSA of about 32,000 tons per year into the Bighorn River would remain unchanged.	Fence, well, and reservoir maintenance will cause no additional sediment loading into the Bighorn River. Sediment loads of about 32,000 tons per year into the Bighorn River would remain unchanged.
Wildlife Habitat and Populations	Fewer than five mule deer would be temporarily displaced on up to 1,700 acres of habitat as a result of human activity and disturbance of forage and cover on areas were oil and gas exploration occurs. These can easily be accommodated in areas not disturbed by oil and gas exploration.	Wilderness designation would assure long-term wildlife habitat protection on 21,000 acres. No impacts on or displacement of deer, sage grouse, or raptors would be expected.	Wilderness designation would assure long-term protection of wildlife habitat on 21,776 acres. All wildlife, especially game animals, would benefit in the long term from improved security.
Livestock Grazing	Maintenance of range projects would improve livestock distribution and grazing occurrence throughout the WSA. Livestock grazing use allocations will remain at 1,503 AUMs.	Current livestock grazing use allocation levels of 1,503 AUMS would be maintained. The opportunity to provide better distribution of livestock would be foregone where new reservoirs or fences might accomplish this objective.	Current livestock grazing use allocation levels of 1,576 AUMs would be maintained in the designated area. The opportunity to provide better distribution of livestock would be foregone in those areas where new fences, water wells, and reservoirs would meet this objective.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness values.

During the intensive inventory phase, 28 comments were received on the Honeycombs WSA. Nineteen comments supported wilderness study designation based on wilderness characteristic; 13 of these 19 comments were duplicate copies received from wilderness advocates in Ohio. Nine comments opposed wilderness study designation, these were based on an absence of visual screening, naturalness and solitude.

Draft EIS: During the formal public review of the draft Washakie RMP/EIS and the draft Washakie Wilderness EIS conducted from November 21, 1986 to February 19, 1987; a total of 169 comments, both oral and written, were received. Two oral comments were received at public hearings held in Thermopolis, Worland, and Greybull Wyoming; the remaining 167 comments were written responses to the draft EIS. During the comment period, two interest groups issued a "Wilderness Alert" to their members. These alerts urged their members to write and express their support for wilderness designation. One hundred twenty-one of the written comments supported the "Wilderness Alert".

Of the 169 comments received 78 percent supported recommending additional wilderness designation. These comments favored designation to protect unique resource values and ecosystems. Approximately 22 percent of the comments received said none of the WSA's should be recommended for wilderness designation. These comments favored mineral exploration/development and the need for continued motor vehicle access.

A total of fifteen letters from local, state, and federal agencies were received. These the letters did not support wilderness designation that might restrict development or limit future options. Two letters favored wilderness designation citing enhanced opportunities for hunting and fishing. Ten letters from these agencies commented but made no recommendation for or against wilderness designation.

CEDAR MOUNTAIN
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 21,560 acres

The Cedar Mountain WSA (WY-010-222) includes 21,560 acres of BLM lands with no private or state inholdings (see table 1). The WSA is located in Washakie County, 2 miles east of Kirby and 8 miles southwest of Worland Wyoming, along the east side of the Bighorn River. The boundary along the western and north western portion is located along private land and the Bighorn River. Part of the eastern boundary is located along a natural gas pipeline right-of-way, roads and state lands property lines. The southern boundary is located mainly along a road and private property boundary (see map 1).

The WSA is an area of rugged topography characterized by deep, steep-sided drainages flowing north or west toward the Bighorn River. Cedar Mountain is the dominant visual feature of the unit. Elevation in the WSA ranges from about 4,200 feet above sea level at the WSA's northern edge to 5,500 feet on Cedar Mountain. Vegetation consists mainly of the belt of junipers on Cedar Mountain, sagebrush and grasses with rabbitbrush in drainages, and around reservoirs.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Washakie Wilderness Environmental Impact Statement (EIS) filed in November 1990. There were four alternatives analyzed in the EIS: All Wilderness (21,560 acres designated); No Wilderness; Partial Wilderness (Proposed Action) (10,223 acres designated); and Wilderness Enhancement (22,171 acres designated) which adds 611 acres to the WSA. The Partial Wilderness alternative is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE - 10,223 acres recommended for wilderness
11,337 acres recommended for nonwilderness

The recommendation is to designate 10,223 acres as Partial Wilderness for this WSA, and release 11,337 acres for uses other than wilderness. The Wilderness' Expansion alternative would be the environmentally preferable recommendation as it would result in the least change to the natural environment over the long term. However, the partial wilderness recommendation would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. There are no private or state inholdings within the WSA and all subsurface values are held by the United States.

The following points were key considerations in recommending the suitable portion of the WSA for wilderness.

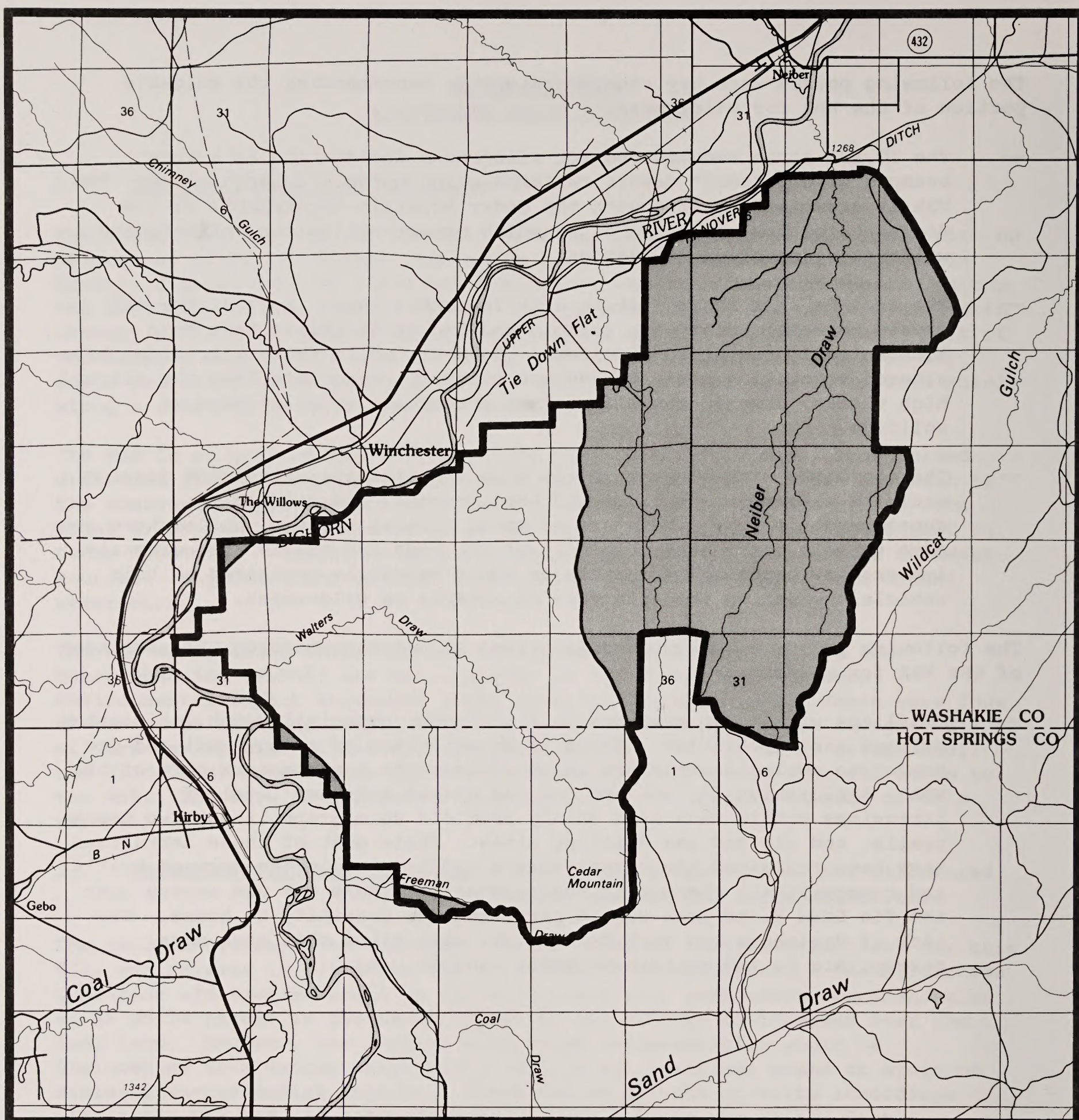
-- The 10,223 acres recommended for wilderness designation is a rare example of dry "cold" desert badlands which borders a large river. The WSA is especially scenic with the Cedar Mountain escarpments as the dominant feature, offering outstanding opportunities for solitude and wilderness dependent recreation.

-- The area is in a natural state with few intrusions. Most of the man caused impacts; reservoir, seismic and two track trails have been substantially reclaimed by nature. However, while these intrusions have altered vegetation patterns and are slightly noticeable from the air or high vistas, they do not effect ones perception of wilderness or solitude.

-- The conflicts with other resource uses are minimal. Livestock grazing would be allowed to continue and the potential for oil and gas development is low. There are no known mineral values. While there is some vehicle use in the area most of the ways and trails are currently impassable, becoming impassable or could be easily reclaimed to halt vehicle use making the area very manageable as wilderness.

The following points were key considerations in not recommending the remainder of the WSA for wilderness.

-- Conflicts with other resource uses is higher especially with anticipated oil and gas exploration. There is an extension of a known oil and gas producing geologic structure which crosses the northeastern part of the WSA. Exploration for oil and gas has caused a higher level of intrusions within this area mainly from old seimograph lines, two track trails, and oil and gas drilling sites. While most of these intrusions have been reclaimed the visual scares still exist in the form of trails and compositional changes in the vegetation. More ORV use occurs near the Tie Down Flats area due in part from its proximity to homes. The lack of drainages and vertical relief, also makes this area more susceptible to indiscriminate motor vehicle use.



Recommended for Wilderness

Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

NONE — State

NONE — Private

N

0 1 2 3 4 5
MILES

Cedar Mountain Proposal

WY–010–222
June, 1990

Table 1

Land Status and Acreage Summary of the Cedar Mountain Study Area

Within the Wilderness Study Area	
BLM (surface and subsurface)	21,560
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	21,560
Within the Recommended Wilderness Boundary	
BLM (within WSA)	10,223
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	10,223
Within the Area Not Recommended for Wilderness	
BLM	11,337
Split Estate	0
Total BLM land not recommended for wilderness	11,337
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness**: The Cedar Mountain WSA is an area of rugged topography characterized by deep, steep-sided drainages flowing north or west toward the Bighorn River. Cedar Mountain is the dominant visual feature of the WSA. It is unusual in the vicinity because of its elevation, the vegetation growing on it, and the imposing rock escarpment which forms its southern side. The landscape rises fairly uniformly in a south-southeasterly direction from the Bighorn River to Cedar Mountain where it drops abruptly near the south boundary of the WSA. An exception of the gradual rise from north to south occurs in the extreme western portion of the WSA where bluffs tower above the Bighorn River and deep drainages fall steeply to the river.

Although bladed trails influence the area's naturalness their presence is mitigated to an extent by topographic screening, by the unusable condition of about half the trails in the segment, and by the natural rehabilitation which has occurred. The WSA's western half has apparent marginal naturalness with good potential for a return to a higher degree of naturalness. The apparent naturalness of the eastern half of the WSA is moderate.

B. **Solitude**: The unit's size and topography provide an outstanding opportunity for solitude. It is conducive to seclusion because it is essentially badlands. The steep-sided drainages limit one's awareness to a small, immediate area. The topography and vegetation act as a screen to reduce the possibility of seeing into more than the adjacent drainages and help maintain the feeling of seclusion. The best opportunities for solitude can be found in the southern half of the WSA where the topographic relief is the greatest.

C. **Primitive and Unconfined Recreation**: The size of the WSA and the overall lack of human-made constraints are conducive to unconfined recreation activities. Naturally occurring physical confinements such as the bluffs above the Bighorn River, the Cedar Mountain escarpment, and the generally rugged terrain do exist but they enhance the recreation experience by providing challenge and diversity. The area provides opportunities for backpacking, primitive camping, hiking, horseback riding, trapping, hunting for deer, upland birds, small game, and predators. Opportunities for nontechnical rock climbing and repelling are limited mainly to the Cedar Mountain escarpment. Snowshoeing and cross-country skiing has occurred in the winter when there is adequate snowfall.

D. **Special Features**: Petrified wood and reptilian fossils are found in the Lance and Meeteetse formations in the southern end of the WSA. Mammalian fossils are found in the Fort Union Formation north of Cedar Mountain.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms**: Wilderness designation of this WSA would expand the diversity of natural systems and features, as represented by ecosystems and landforms. This WSA is representative of the Wheatgrass-Needlegrass Shrubsteppe ecosystem in the Wyoming Basin Province ecoregion. Within this ecoregion, the North Absaroka Wilderness, administered by the Forest Service, has 6,880 acres of the wheatgrass-needlegrass shrubsteppe ecosystem in its boundaries. Five other study areas (75,185 acres) currently represent this ecosystem in the Wyoming Basin Province ecoregion. Two of these WSAs, Bobcat Draw Badlands and McCullough Peaks, have suitable recommendations. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNW	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province Wheatgrass-needlegrass	1	17,000	5	76,988
		WYOMING		
Dry Domain/Wyoming Basin Province Wheatgrass-needlegrass	9	17,000	5	76,988

B. Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (Five Hours) of major population centers: The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	444,099
Billings, Montana	12	4,808,142	54	3,462,167

C. Balancing the Geographic Distribution of Wilderness Areas: Designation of the Cedar Mountain WSA as wilderness would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System (NWPS). Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,037 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of the WSA would add a dry, "cold" desert badland area to the system and diversify ecosystem representation in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The portion of the WSA recommended for wilderness designation can be managed as wilderness to preserve values now present in the area. There are no State or private inholdings which would preclude management. The physical boundaries of the recommended area including the Cedar Mountain escarpment, Bighorn River, and fenced private land holdings all form a formidable barrier. The two track trails which form the north and east boundary between the portion of the WSA recommended and the portion not recommended for wilderness designation has eroded to the point where it is barely passable and limits most vehicle access.

The part of the WSA not recommended for wilderness designation could be managed as wilderness but at very high costs. There are problems near the east and northern border with ORV use, and known oil and gas reserves.

Energy and Mineral Resource Values

The U.S. Geologic Survey and Bureau of Mines prepared a mineral assessment for Cedar Mountain WSA in 1988 (U.S. Geological Survey Bulletin 1756-B). This report is the primary source for the following discussion.

There are no mines or prospects located within the WSA, and it has no identified locatable mineral resources. The resource potential for coal is low in the southern most part of the study area; the remainder of the area has no potential for coal resources. However, coal was mined from a thin discontinuous coal seams 2 miles south of the area. This seam is covered by as much as 1200 feet of the Meeteetse and Lance Formations beneath Cedar Mountain.

Gold was identified in three stream-sediments samples collected near Tie Down Flats, indicating a moderate potential for gold resources in those small drainages. The WSA has no potential for gold resources outside these three drainages, and no potential for resources of other metals, including uranium.

An extension of a known oil and gas producing geologic structure crosses the northeastern part of the area, and another producing geologic structure, is 4 miles southwest of Cedar Mountain. Based on the proximity of these structures, inferred faulting beneath the central part of the area, and oil and gas shows in dry wells drilled within the area, the potential for oil and gas resources is considered moderate for two areas in the north and central parts of the WSA, and low for the remainder of the WSA.

The WSA has no potential for sand and gravel resources or for geothermal energy resources.

Impacts on Other Resources

The following comparative impact table (see table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness. This table of comparative summary of impacts is also stated in the Washakie Wilderness EIS.

TABLE 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Partial Wilderness (Proposed Action)	No Wilderness (No Action)	All Wilderness	Wilderness Enhancement
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 10,213 acres because of wilderness designation. In the remainder of the WSA, wilderness values would not be assured on approximately 11,347 acres because of oil and gas exploration activity, and because of ORV activity on approximately 19 miles of existing roads and trails in the northern portion of the WSA. No increase in visitor use is anticipated.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation would be eliminated on up to 1,750 acres. Special values would continue to be protected. Wilderness values would likely remain unchanged on the remaining 19,810 acres of the WSA.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 21,560 acres.	Wilderness values including naturalness, solitude, and primitive and unconfined recreation, and special values, would be assured protection on 22,171 acres.
Mineral Exploration and Development	No oil and gas resources are expected to be recovered from three exploratory wells drilled on lands not designated wilderness.	No oil and gas resources are expected to be recovered from five exploratory wells drilled in the WSA on lands not affected by restrictions.	Wilderness designation would preclude exploration for oil and gas resources on 21,560 acres.	Wilderness designation would preclude exploration activity for oil and gas on 22,171 acres; however, no impacts are expected as no production is anticipated.
Recreational Off-Road Vehicle Use	Recreational ORV use would be allowed on approximately 19 miles of existing roads and trails in the WSA. Access to rockhounding areas and popular ORV touring areas would remain available and use would continue at fewer than 500 visitor use days per year.	Recreational ORV use of approximately 300 visitor use days per year in the WSA would remain unchanged.	Wilderness designation would eliminate motor vehicle use of approximately 300 visitor use days per year associated with ORV touring, hunting, and rockhounding.	Wilderness designation would displace approximately 300 visitor use days per year of recreational ORV touring, hunting, and rockhounding from the study area.

TABLE 4 (Continued)
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Partial Wilderness (Proposed Action)	No Wilderness (No Action)	All Wilderness	Wilderness Enhancement
Water Quality	Sediment discharged into the Bighorn River would increase by 34 tons per year. Current naturally occurring sediment loads of about 32,000 tons per year originate from within the WSA.	Sediment discharged into the Bighorn River would increase by 34 tons per year. Current sediment loads of about 32,000 tons per year originates from within the WSA.	Fence, well, and reservoir maintenance will cause no additional sediment loading into the Bighorn River. Naturally occurring sediment loads from the WSA of about 32,000 tons per year into the Bighorn River would remain unchanged.	Fence, well, and reservoir maintenance will cause no additional sediment loading into the Bighorn River. Sediment loads of about 32,000 tons per year into the Bighorn River would remain unchanged.
Wildlife Habitat and Populations	Wilderness designation would assure long-term habitat protection on 10,213 acres. Oil and gas production is not expected on the remaining 11,347 acres; therefore, wildlife habitat values would be protected.	Fewer than five mule deer would be temporarily displaced on up to 1,700 acres of habitat as a result of human activity and disturbance of forage and cover on areas where oil and gas exploration occurs. These mule deer can be easily accommodated in areas not disturbed by oil and gas exploration.	Wilderness designation would assure long-term wildlife habitat protection on 21,560 acres. No impacts on or displacement of deer, sage grouse, or raptors would be expected.	Wilderness designation would assure long-term protection of wildlife habitat on 22,171 acres. All wildlife, especially game animals, would benefit in the long term from improved security.
Livestock Grazing	Livestock distribution and riparian areas in the WSA would remain unchanged as no new range improvement projects are planned. Current livestock grazing use allocation levels of 1,751 AUMs would continue.	Maintenance of existing range projects would improve livestock distribution and grazing occurrence throughout the WSA. Livestock grazing use allocations will remain at 1,751 AUMs.	Current livestock grazing use allocation levels of 1,751 AUMs would be maintained. The opportunity to provide better distribution of livestock would be foregone where reservoirs or fences might accomplish this objective.	Current livestock grazing use allocation levels of 1,787 AUMs would be maintained in the designated areas. The opportunity to provide better distribution of livestock would be foregone in those areas where new fences, reservoirs, and water wells would meet this objective.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness values.

During the intensive inventory phase, 19 comments were received on the Cedar Mountain WSA. Twelve opposed inclusion of this unit as a wilderness study area and seven supported inclusion. Those who opposed wilderness study area status believed that the area did not have all the prerequisite wilderness characteristics, that mineral values would be lost and that the area should be left as it is. Those favoring additional wilderness studies for Cedar Mountain cited that the area did meet all the prerequisites for wilderness study.

Draft EIS: During the formal public review of the draft Washakie RMP/EIS and the draft Washakie Wilderness EIS conducted from November 21, 1986 to February 19, 1987; a total of 169 comments, both oral and written, were received. Two oral comments were received at public hearings held in Thermopolis, Worland, and Greybull Wyoming; the remaining 167 comments were written responses to the draft EIS. During the comment period, two interest groups issued a "Wilderness Alert" to their members. These alerts urged their members to write and express their support for wilderness designation. About 121 of the written comments appeared to support the "Wilderness Alert".

Of the 169 comments received 78 percent supported recommending additional wilderness designation. These comments favored designation to protect unique resource values and ecosystems. Approximately 22 percent of the comments received said none of the WSA's should be recommended for wilderness designation. These comments favored mineral exploration/development and the need for continued motor vehicle access.

A total of fifteen letters from local, state and federal agencies were received. These the letters did not support wilderness designation that might restrict development or limit future options. Two letters favored wilderness designation citing enhanced opportunities for hunting and fishing. Ten letters from these agencies commented but made no recommendation for or against wilderness designation.

MEDICINE LODGE
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 7,740 acres

The Medicine Lodge WSA (WY-010-240) includes 7,740 acres of BLM-administered lands with no private or state inholdings (see table 1). The WSA is located in Big Horn County, 5 miles northeast of Hyattville, Wyoming along the west slope of the Bighorn Mountains. The WSA is bounded mainly by the Cold Springs Road on the south, the Black Butte Road on the north and the west, and the Bighorn National Forest on the east (see map 1).

The WSA consists of spectacular canyon walls towering 1,000 feet above Medicine Lodge Creek. The remainder of the WSA consists of steeply sloping shrubsteppe and broken rugged areas with shallow canyons and unusual knobby rock outcrops. Elevations range between 5,100 and 8,500 feet. Vegetation is diverse; the warm ledges support grasses and mountain mahogany while the cool slopes are forested with Douglas fir. Vegetation within the broken rugged areas, along the canyon rims, and in the open areas includes sagebrush, grasses, and juniper.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Washakie Wilderness Environmental Impact Statement (EIS) filed in November 1990. There were four alternatives analyzed in the EIS: All Wilderness (7,740 acres); No Wilderness; Partial Wilderness (3,600 acres) (Proposed Action); and Wilderness Enhancement (9,796 acres) adding 2,056 acres to the WSA. The Partial Wilderness alternative is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE - 3,600 acres recommended for wilderness
4,140 acres recommended for nonwilderness

The recommendation is to designate 3,600 acres as wilderness and release 4,140 acres for uses other than wilderness. The Wilderness Enhancement Alternative is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment over the long term. However, the Partial Wilderness alternative would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. There are no private or state inholdings within the WSA and all subsurface values are held by the United States.

The following points were key considerations in recommending the suitable portion of the WSA for wilderness.

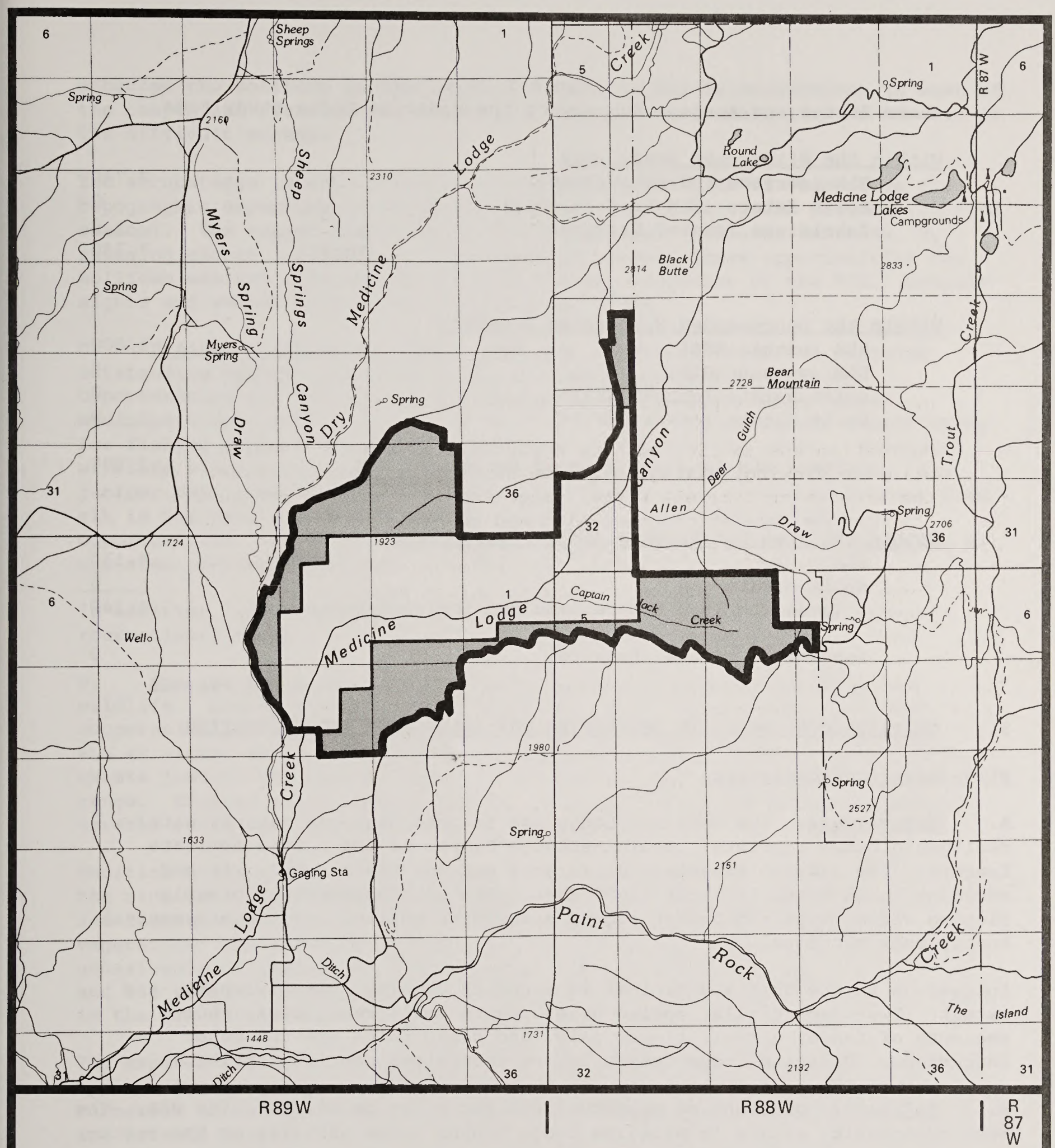
-- The 3,600 acres recommended for wilderness designation is essentially a pristine canyon and its associate rims. The configuration and composition of the area recommended suitable for wilderness were key considerations in the proposal. There are excellent opportunities for solitude at the bottom of the canyon where sight distances are limited, vegetation is thick and use is limited by the inhospitable terrain.

-- Conflicts with other resources are nonexistent, there is a low potential for mineral resources and grazing use currently does not take place. The terrain restricts the use of motorized vehicles. No development is projected to take place in the foreseeable future.

-- Recreation use is limited, but opportunities are outstanding for wildlife viewing, hiking, big game hunting and trout fishing. Part of the area is crucial elk winter range and is manage in conjunction with the Wyoming Recreation Commission and the Wyoming Game and Fish Department. Scenic values in the area are outstanding, with the rich color combinations, the vertical or nearly vertical cliffs, spires and formations. The presence of sinking stream segments in the upper portion of the canyon, becoming free-flowing cascading water in the lower portion, adds to the relative uniqueness of the WSA.

The following points were key considerations in not recommending the remainder of the WSA for wilderness.

-- Conflicts with other resource uses is greater, range improvement projects such as spring developments, small reservoirs, fences, pipelines, and range enclosures require access which has traditionally been by motorized vehicle making the area difficult to manage as wilderness. Other intrusions such as two track trails, timber sale areas, and cabin ruins detract from the area. The shrubsteppe area above the canyon rim, lacks the vegetation and topographic screening to be conducive to solitude, this becomes especially evident during heavy use periods (hunting season).



Recommended for Wilderness

Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

NONE — State

NONE — Private

N

0 1 2 3 4 5
MILES

Medicine Lodge Proposal

WY–010–240
June, 1990

Table 1
Land Status and Acreage Summary of the Medicine Lodge Study Area

Within the Wilderness Study Area	
BLM (surface and subsurface)	7,740
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	7,740
Within the Recommended Wilderness Boundary	
BLM (within WSA)	3,600
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	3,600
Within the Area Not Recommended for Wilderness	
BLM	4,140
Split Estate	0
Total BLM land not recommended for wilderness	4,140
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness**: The Medicine Lodge WSA is predominantly natural with negligible human imprints. Medicine Lodge Canyon is the unit's dominate feature. The average elevation difference between the canyon's rim and Medicine Lodge Creek is about 1,000 feet. The unit consists of steeply sloping shrubsteppe and broken rugged areas with shallow canyons and unusual knobby rock outcrops.

Intrusions in the unit are minimal in terms of density, visual impact, and extent. Two-track trails, spring developments small reservoirs, short segments of fence, a small timber sale, and cabin ruins are the major intrusions. Medicine Lodge Canyon has no intrusions and is pristine.

B. **Solitude**: Outstanding opportunities for solitude exist in the WSA. The best opportunity exists in Medicine Lodge Canyon where activity on the bottom of the canyon is removed from activity on the rims. Sight distances are limited by the canyon and vegetation. Inhospitable terrain, the lack of trails, thick vegetation along the water courses, and the blockages of fallen timber and boulders is characteristic of the canyon bottom. Limited use also

enhances the solitude in the canyon. Livestock use is nonexistent in most of the canyon and recreational use of the canyon is extremely limited because of the difficult access.

The shrubsteppe is not conducive to solitude. The lack of vegetative and topographic screening is especially evident during heavy use periods (hunting season). The rugged character in the juniper belt promotes solitude, by reducing access and limiting the number of users. These opportunities for solitude are not affected by the size and configuration of the WSA. Outside sights and sounds have little effect on solitude.

C. **Primitive and Unconfined Recreation:** Medicine Lodge WSA contains outstanding opportunities for primitive and unconfined recreation. Opportunities for hiking and climbing exist in Medicine Lodge Canyon. Medicine Lodge Creek is a trout fishery of regional importance. Opportunity for fishing appears greatest in the lower reaches of the creek. Excellent wildlife viewing and hunting opportunities exist throughout the WSA. The juniper belt provides cover and forage for deer. The shrubsteppe areas draw elk in the fall and winter months. Both species are hunted heavily. Opportunities for viewing and hunting small game, predators and upland birds are also present throughout the unit.

In addition, the outstanding scenic quality of this WSA enhances the recreational value.

D. **Special Features:** Medicine Lodge WSA is extremely important for wildlife. Nearly the entire WSA is crucial elk winter range. The area is cooperatively managed by the Wyoming Game and Fish Department (WGFD) and the BLM as winter and crucial winter range for elk. Crucial deer winter range exists just to the east of the WSA. The entire WSA serves as deer winter range. Bighorn sheep, which were reintroduced in the Paint Rock Canyon area several years ago, may use parts of the Medicine Lodge WSA as summer range.

Medicine Lodge Canyon rates extremely high in scenic value which is based on the rich color combinations, the vertical or nearly vertical cliffs, spires and formations; the variation in form, pattern, texture, and type of vegetation; the presence of free-flowing, cascading water; the freedom from undesirable or discordant sights and sounds resulting from human activities; and its relative uniqueness in the region. The supplemental values inherent in the WSA definitely enhance the wilderness values of the WSA.

The exposed geologic features in the steep walls of the canyons provide the opportunity to study the geologic history of the area. The Madison Limestone Formation is a storehouse of fossils such as brachiopods, corals, bryozoans, and crinoid stems.

The WSA is also known to contain a high density of important cultural materials from early human occupation.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms:** Wilderness designation of this WSA would not add to the ecosystem diversity currently in the NWPS. The Medicine Lodge WSA is representative of the Sagebrush Steppe ecosystem in the Wyoming Basin Province ecoregion. Fifteen other study areas currently represent this ecosystem. Several of these have been recommended as suitable for wilderness designation including the Alkali Creek and Trapper Creek WSAs. Within this ecoregion, a portion of the Forest Service administered Cloud Peak Wilderness represents 27,125 acres of the sagebrush steppe ecosystem.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province/Sagebrush Steppe	1	67,026	15	222,291
		WYOMING		
Dry Domain/Wyoming Basin Province/Sagebrush Steppe	1	67,026	15	222,291

B. **Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (5 Hrs.) of Major Population Centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Casper, Wyoming	27	4,080,891	32	440,449
Billings, Montana	12	4,808,142	54	3,462,727

C. **Balancing the Geographic Distribution of Wilderness Areas**: Designation of Medicine Lodge as wilderness would not improve the balance of the geographic distribution of wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of the WSA would add a dry, "cold" desert badland area to the system and diversify ecosystem representation in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The portion of the WSA recommended for wilderness designation can be managed as wilderness to preserve values now present in the area. There are no state or private inholdings which would preclude management. The physical boundaries of the recommended area including Medicine Lodge Canyon, the Black Butte Road, and the rim rock between Medicine and Dry Medicine Lodge Canyon form a formidable barrier. There are no resources conflicts within the canyon that would effect manageability.

The portion of the WSA not recommended for wilderness designation is also manageable as wilderness. However, conflicts with other resources include range improvement projects such as spring developments, small reservoirs, short segments of fence, and the associated use needed to maintain these projects which has been traditionally accessed by motorized vehicle. The two-track trails associated with the timber sale and the range improvement projects provides access along the rim of the canyon and through the sagebrush steppe are also used by recreationist and livestock operators making the area difficult to manage.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines prepared a mineral assessment for Medicine Lodge WSA in 1989 (U.S. Geological Survey Bulletin 1756-A). That assessment is the primary source for the following discussion.

The Medicine Lodge WSA is considered to have low potential for the occurrence of oil or gas in producible quantities. The WSA is considered to have low potential for the discovery of tar sand deposits.

No mining claims are located within the WSA. The WSA has low potential for minor vein-type silver mineralization, base metal sulfides, and rare-earth elements. The WSA is considered to have moderate potential for "Little Mountain-type" uranium mineralization (McEldowney et al. 1977).

There is no known potential for salable mineral values in the Medicine Lodge WSA and no activity is anticipated.

Impacts on Other Resources

The following comparative impact table (see table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness. This table of comparative summary of impacts is also stated in the Washakie Wilderness EIS.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Partial Wilderness (Proposed Action)	No Wilderness	All Wilderness	Wilderness Enhancement
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 3,600 acres because of wilderness designation. In the remainder of the WSA, wilderness values would be lost along approximately 6 miles (or 2,400 acres) of designated roads and trails, because of ORV activity. Although not assured, wilderness values would likely be retained on approximately 2,740 acres where no impairing activities are anticipated. An increase of 100 visitor use days per year is anticipated.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation could be impaired on up to 4,000 acres. Special values would continue to be protected. Wilderness values would likely remain unchanged on the remainder of the WSA.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 7,740 acres.	Wilderness values including naturalness, solitude, and primitive and unconfined recreation, and special values, would be assured protection on 9,796 acres. Solitude would be temporarily lost on range improvement locations where periodic maintenance is required.
Mineral Exploration and Production	No oil and gas exploration or development activity is anticipated either within or outside the designated area; therefore, no impacts are expected.	No oil and gas exploration or development activity is anticipated, therefore, no impacts are expected on leasable minerals.	Wilderness designation would preclude exploration of 7,740 acres; however, no oil and gas exploration is projected to occur and no impacts would result.	Wilderness designation would preclude leasing, exploration, and development for oil and gas on 9,796 acres.
Recreational Off-Road Vehicle Use	Recreational ORV use would not be affected in the portion of the WSA designated wilderness because there are no vehicle routes in that area. Recreational ORV use would be allowed on approximately 6 miles of designated roads and trails outside the designated area. Access to popular ORV touring areas outside the designated area would remain available and use would continue at 250 visitor use days per year.	Recreational ORV use of 250 visitor use days per year in the WSA would remain unchanged.	Wilderness designation would displace motor vehicle use of approximately 250 visitor use days per year on 6 miles of designated roads and trails.	Wilderness designation would eliminate approximately 250 visitor use days per year of ORV touring and hunting in the study area.

Table 4 (Continued)
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Partial Wilderness (Proposed Action)	No Wilderness	All Wilderness	Wilderness Enhancement
Water Quality	Sediment discharged into the Bighorn River would increase. Current naturally occurring sediment loads of about 4,000 tons per year originate from within the WSA.	Sediment discharged into the Bighorn River would not increase. Current naturally occurring sediment loads of about 4,000 tons per year originates from within the WSA.	Sediment loads discharged into the Bighorn River would remain unchanged. Current naturally occurring sediment loads of about 4,000 tons per year originate from within the WSA.	Range improvement project maintenance will maintain water quality by preventing additional sediment loading into the Bighorn River. Existing sediment loads in the designated area of about 5,000 tons per year into the Bighorn River would remain unchanged.
Wildlife Habitat and Populations	Wilderness designation would assure long-term habitat protection on 3,600 acres. Development is not expected on the remaining 4,140 acres; therefore, wildlife habitat values would be protected.	While there would be no assurance of long-term habitat protection on 7,740 acres, development is not expected; therefore, wildlife habitat values would be protected.	Wilderness designation would assure long-term wildlife habitat protection on 7,740 acres. No impacts on or displacement of elk, deer, sage grouse, or raptors would be expected.	Wilderness designation would assure long-term protection of wildlife habitat on 9,796 acres. All wildlife, especially game animals, would benefit in the long term from improved security.
Fisheries	Fisheries habitat and population levels would receive long-term protection.	The Medicine Lodge Creek trout fishery would be maintained; however, potential surface-disturbing activities could increase sediment loads.	Fisheries habitat and population levels would receive long-term protection from mineral and forest development. The fishery would be able to maintain itself through natural reproduction.	The Medicine Lodge Creek trout fishery would receive long-term protection for 3.0 miles.
Riparian/Wetlands	There would be little change in existing riparian/wetland conditions as a result of implementing the Partial Wilderness Alternative.	Approximately 5.9 miles of riparian/wetlands along Medicine Lodge Creek would be retained. Riparian/wetlands in the upper 1.5 miles of Captain Jack Creek would be slightly impacted by livestock use.	There would be little change in riparian/wetland habitat from the existing situation. There would be an additional emphasis on riparian/wetland habitat restoration and improvement.	The riparian zone along 5.9 miles of Medicine Lodge Creek, 3.5 miles along Captain Jack Creek, and 0.2 mile in Allen Draw would receive long-term protection.
Livestock Grazing	There would be an improvement in livestock distribution and an enhancement of riparian areas because of maintenance of existing range improvement projects. Current livestock grazing use allocation levels of 92 AUMs would continue in the Medicine Lodge HMU.	There would be an improvement in livestock distribution and an enhancement of riparian areas because of maintenance of existing range improvement projects. Current livestock grazing use allocation levels of 558 AUMs would continue in the Medicine Lodge HMU.	There would be an improvement in livestock distribution and an enhancement of riparian areas because of maintenance of existing range improvement projects. Current livestock grazing use allocation levels of 558 AUMS would continue in the Medicine Lodge HMU.	Current livestock grazing use allocation levels of 558 AUMs would be maintained in the designated area. The opportunity to provide better distribution of livestock would result from maintenance of existing range improvement projects.

Local Social and Economic Considerations

Local social and economic consideration were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness values.

During the intensive inventory phase, 20 comments were received on the Medicine Lodge WSA. Five opposed inclusion of this unit as a wilderness study area and fifteen supported inclusion. Those who opposed wilderness study area status did not elaborate on wilderness character or why the area should not be studied. Those favoring additional wilderness studies for Medicine Lodge cited that the area did meet all the prerequisites for wilderness study and that the area could and should stand alone, irrespective of the decision on the adjacent Forest Service RARE II unit.

Draft EIS: During the formal public review of the draft Washakie RMP/EIS and the draft Washakie Wilderness EIS conducted from November 21, 1986 to February 19, 1987; a total of 169 comments, both oral and written, were received. Two oral comments were received at public hearings held in Thermopolis, Worland, and Greybull Wyoming; the remaining 167 comments were written responses to the draft EIS. During the comment period, two interest groups issued a "Wilderness Alert" to their members. These alerts urged their members to write and express their support for wilderness designation. About 121 of the written comments appeared to support the "Wilderness Alert".

Of the 169 comments received 78 percent supported recommending additional wilderness designation. These comments favored designation to protect unique resource values and ecosystems. Approximately 22 percent of the comments received said none of the WSA's should be recommended for wilderness designation. These comments favored mineral exploration/development and the need for continued motor vehicle access.

A total of fifteen letters from local, state and federal agencies were received. These the letters did not support wilderness designation that might restrict development or limit future options. Two letters favored wilderness designation citing enhanced opportunities for hunting and fishing. Ten letters from these agencies commented but made no recommendation for or against wilderness designation.

ALKALI CREEK
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 10,100 acres

The Alkali Creek WSA (WY-010-241) is locate in Big Horn County, 7 miles north of Hyattville Wyoming along the west slope of the Bighorn Mountains. The WSA includes 10,100 acres of BLM lands surrounding an island of private lands totaling 680 acres (see table 1). There are no private lands in the WSA and access to the private section is provided for through a cherry-stem road. The WSA boundaries follows the Alkali and Red Gulch roads on the east and north, a two-track trail along the western boundary. The southern boundary follows along state, private property lines and the Alkali road (see map 1).

The WSA is located in a transition zone between the lower west slopes of the Bighorn Mountains and the floor of the Bighorn Basin. Elevations range from about 4,850 to 7,000 feet above sea level. The WSA is an extension of the juniper covered slopes and canyons which characterize the lower reaches of the west slope of the Bighorn Mountains.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Washakie Wilderness Environmental Impact Statement (EIS) filed in November 1990. There were four alternatives analyzed in the EIS, including All Wilderness; No Wilderness; Partial Wilderness (Proposed Action); and Wilderness Expansion (enhancement) adding 680 to acres to the WSA. The Partial Wilderness alternative is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE - 8,187 acres recommended for wilderness
1,913 acres recommended for nonwilderness

The recommendation is to designate 8,187 acres as Wilderness and release 1,913 acres for uses other than wilderness. The Wilderness Expansion (enhancement) alternative would be the environmentally preferable recommendation as it would result in the least change to the natural environment over the long term. However, the partial wilderness recommendation would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

The 8,187 acres recommended for wilderness designation represents a rare pristine example of the transition zone between the desert floor and the mountains to the east. The WSA contains highly scenic canyons, brightly colored soils and unusual rock formations. On the rims of these canyons, scenic vistas provide an unencumbered view of the basin floor and the majestic mountains. The WSA is known to contain pictographs, rock shelters, and other important cultural values of early occupation. The WSA also provides critical winter range for habitat elk and mule deer.

The area is in a natural state, relatively unencumbered by human-made features. The terrain and vegetative screening in combination with the WSAs natural state provides outstanding opportunities for solitude and primitive recreation.

The following points were key considerations in not recommending the remainder of the WSA for wilderness.

This area, while fairly pristine contains most of the man-caused intrusions reducing the naturalness to a point where it is not necessarily unique, truly outstanding, or significant enough to warrant designation. The lack of vertical relief and vegetative screening, in combination with the two major travel routes intersecting along the boundary reduces the opportunities for unconfined, primitive recreation and solitude to a point where it is not necessarily unique, truly outstanding, or significant enough to warrant designation.

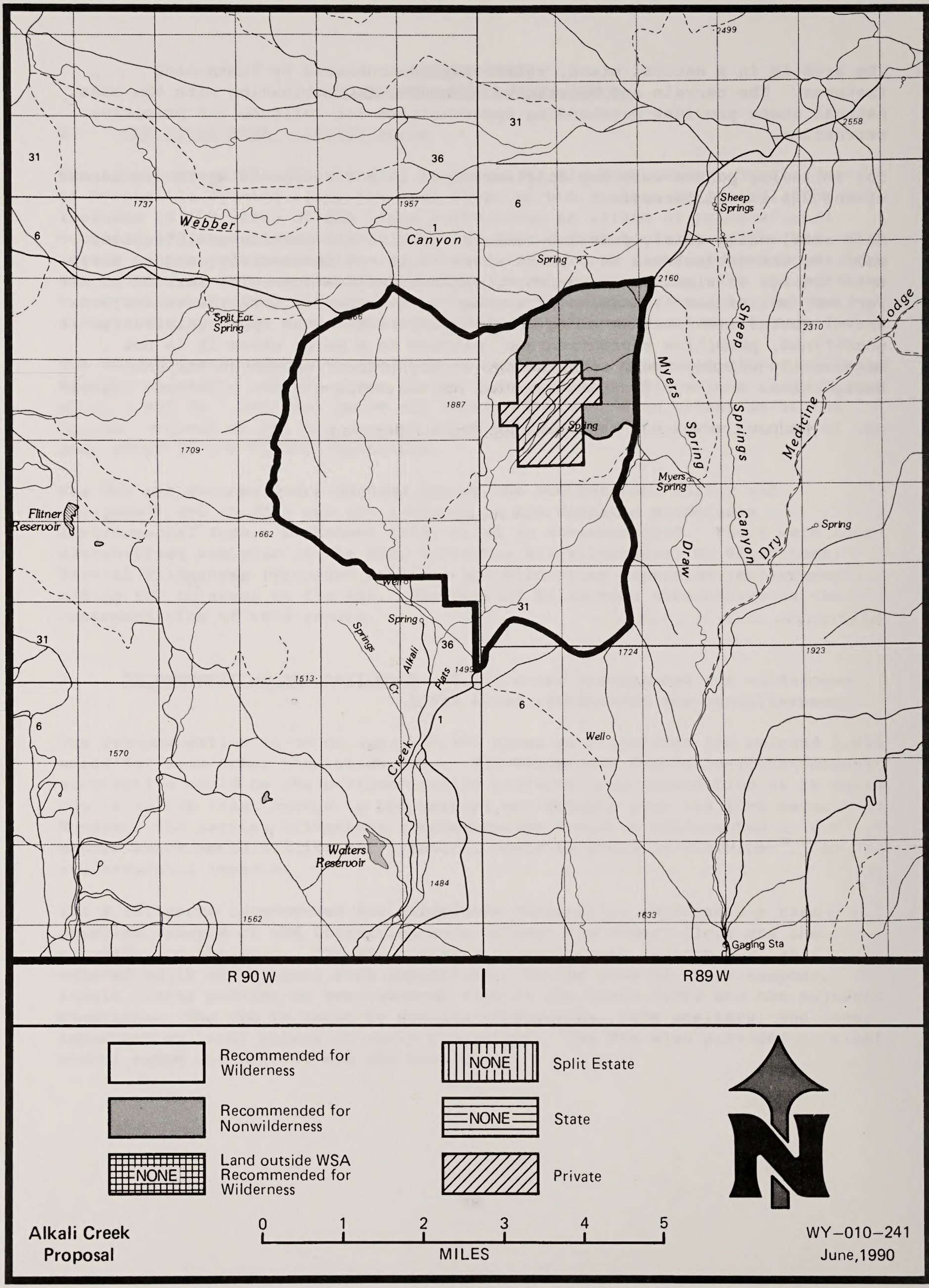

T 52 N
T 51 N
T 50 N
R 90 W
R 89 W
Webber Canyon
Sheep Springs
Spring
Split Ear Spring
Myers Spring
Sheep Springs Canyon
Lodge Medicine Dry Draw
Flitner Reservoir
Weir
Alkali Creek
Flats
Well
Walters Reservoir
Gaging Sta
Recommended for Wilderness
Recommended for Nonwilderness
Land outside WSA Recommended for Wilderness
NONE
Split Estate
State
Private
0 1 2 3 4 5
MILES
Alkali Creek Proposal
WY-010-241
June, 1990

Table 1
Land Status and Acreage Summary of the Alkali Creek Study Area

Within the Wilderness Study Area	
BLM (surface and subsurface)	10,100
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	10,100
Within the Recommended Wilderness Boundary	
BLM (within WSA)	8,187
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	8,187
Within the Area Not Recommended for Wilderness	
BLM	1,913
Split Estate	0
Total BLM land not recommended for wilderness	1,913
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness**: The Alkali Creek WSA is located in the transition zone between the lower west slopes of the Bighorn Mountains and the floor of the Bighorn Basin. Two major land forms are found in the WSA, escarpments, deep, steep-sided drainages and gently roll to almost flat areas. Rock outcrops are linear in nature, resulting in distinct layers or shelves. Soil colors range from beige to pinks and reds.

Vegetation is diverse. Juniper, sagebrush, grasses, and mountain mahogany are common; and limber pine is found in some drainages in conjunction with the juniper. Drainage bottoms which are more mosaic in character exhibit cottonwoods, skunkbush, and grasses.

The Alkali Creek WSA is predominantly natural with a few human imprints, such as fences and vehicle routes. These intrusions are visually insignificant, few in number, and sufficiently dispersed so as not to be a major impact on the naturalness of the unit. A road that provides access to an inholding of private lands and the private inholding were excluded from the WSA during the wilderness inventory process because, they did not contain wilderness values.

B. **Solitude**: Outstanding opportunities for solitude exist in the WSA. Vegetative and topographic screening are major features of the area's character. The stands of juniper and mountain mahogany help limit sight distances and reduce the visibility of activities in the area. Rock outcrops enhance the opportunity for solitude by providing additional screening. The ruggedness of the drainages enhances solitude by reducing ease of travel through the unit. Opportunities for solitude are enhanced by the relative absence of use, or at least, evidence of use.

C. **Primitive and Unconfined Recreation**: Alkali Creek WSA contains outstanding opportunities for primitive and unconfined recreation. The land in the WSA is relatively unencumbered by human-made features, one could expect to use the area without constantly encountering reminders of human presence. The size of the unit may be somewhat confining for some recreational pursuits; however, the rugged character of the landscape, the topographic and vegetative diversity of the area, and the lack of human-made confinements such as fences tend to counter the potential restriction of activity due to size.

In addition, the outstanding scenic vistas of the surrounding mountains and the basin enhance the recreational values.

D. **Special Values**: The entire WSA falls within an elk wintering area where more than 300 elk winter and is critical winter range for mule deer The WSA encompasses at least two sage grouse strutting grounds. Golden eagles and other raptors are known to inhabit the unit.

The study unit is known to have archeological values including pictographs and rock shelters.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms**: Wilderness designation of this WSA would not add to the ecosystem diversity currently in the NWPS. The Alkali Creek WSA is representative of the Sagebrush Steppe ecosystem in the Wyoming Basin Province ecoregion. Fifteen other study areas currently represent this ecosystem. Several of these have been recommended as suitable for wilderness designation including the Honeycombs, Medicine Lodge, and Trapper Creek WSAs. Within this ecoregion, a portion of the FS-administered Cloud Peak Wilderness represents 27,125 acres of the sagebrush steppe ecosystem. This information is summarized in table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province Sagebrush steppe	1	67,026	15	222,291
		WYOMING		
Dry Domain/Wyoming Basin Province Sagebrush steppe	1	67,026	15	222,291

B. Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (5 Hrs.) of Major Population Centers: The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

	NWPS areas		Other BLM Studies	
Population Center	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	440,449
Billings, Montana	12	4,808,142	54	3,462,727

C. Balancing the Geographic Distribution of Wilderness Areas: Designation of Alkali Creek as wilderness would not improve the balance of the geographic distribution of wilderness. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of the WSA would add a dry, "cold" desert badland area to the system and diversify ecosystem representation in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The portion recommended for wilderness designation can be managed as wilderness to preserve the values now present in the area. There are no State or private inholdings which would preclude management. The steep sided drainages, and cliffs form a barrier that prevents intrusions from vehicles and promotes solitude.

The portion of the WSA not recommended for wilderness designation is also manageable as wilderness. While the road and a private inholding were excluded for the WSA because, they did contain wilderness values. The conflicts associated with this inholding reduce the manageability of this area. Conflicts with other resources include range improvement projects such as spring developments, small reservoirs, short segments of fence and the associated use needed to maintain these projects which has been traditional by way of vehicle access. These two-track trails associated with range improvement projects provides access through the sagebrush steppe are then used by recreationist and livestock operators making the area difficult to manage.

Energy and Mineral Resource Values

The U.S. Geological Survey prepared a mineral assessment for Medicine Lodge, Alkali Creek, and Trapper Creek WSAs (U.S. Geological Survey Bulletin 1756-A) in 1989. That assessment is the primary source for the following discussion.

The Medicine Lodge WSA is considered to have low potential for the occurrence of oil or gas in producible quantities. The WSA is considered to have moderate potential for the discovery of tar sand deposits with, five potentially recoverable deposits having been identified within the WSA.

Forty unpatented mining claims are in or within approximately 0.5 mile from Alkali Creek WSA. These claims are for silica type deposits. Reconnaissance indicates a high iron-oxide content and fine granularity which would make them suitable only for foundry sands. The quality and remoteness of the deposits indicate that they would be of low economic value. The claimants took exception to these results stating that the sand could be made economical.

There are also strong indications of vein-type silver, sulfides, and rare-earth element mineralization. The WSA is considered to have moderate potential for "Little Mountain-type" uranium mineralization (McEldowney et al. 1977).

Impacts on Other Resources

The following comparative impact table (see Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness. This table of comparative summary of impacts is also stated in the Washakie Wilderness EIS.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Partial Wilderness (Proposed Action)	No Wilderness	All Wilderness	Wilderness Enhancement
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be assured protection on 8,187 acres because of wilderness designation. In the remainder of the WSA, wilderness values would be lost on approximately 3.7 miles of designated roads and trails because of ORV activity in the northeastern portion of the WSA. Although not assured, wilderness values would likely be retained on approximately 1,913 acres where no impairing activities are anticipated. No increase in annual visitor use days is anticipated.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation could be impaired on up to 8,000 acres. Special values would continue to be protected. Wilderness values would likely remain unchanged on the remaining 2,100 acres of the WSA.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 10,100 acres.	Wilderness values including naturalness, solitude, and primitive and unconfined recreation, and special values, would be assured protection on 10,780 acres. The protection of those values on the 40-acre private mineral estate tract is expected, but not assured. Solitude could be temporarily lost on range improvement project locations where periodic maintenance is required.
Mineral Exploration and Production	No oil and gas exploration or development activity is anticipated; therefore, no impacts are expected on leasable minerals. No impact is anticipated to solid leasable minerals (coal) or locatable or salable minerals.	No oil and gas exploration or development activity is anticipated; therefore, no significant impact to oil and gas, coal, or locatable or salable minerals is anticipated with this alternative. A slight economic impact could occur from the loss of royalties if lease stipulations precluded exploration and development of the potential tar sand deposits.	Wilderness designation would preclude exploration of 10,100 acres, however, no oil and gas exploration is projected to occur. No impacts are anticipated to oil, gas, coal, locatable, or salable minerals.	Under this alternative, wilderness designation would preclude leasing, location or sale on 10,740 acres. No impact is anticipated to solid leasable minerals (coal), nor locatable or salable minerals.

Table 4 (Continued)
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	Partial Wilderness (Proposed Action)	No Wilderness	All Wilderness	Wilderness Enhancement
Recreational Off-Road Vehicle Use	Recreational ORV use would be allowed on approximately 3.7 miles of designated roads and trails in the nondesignated portion of the WSA. Access to popular ORV touring areas would remain available and use would continue at 60 visitor use days per year.	Recreational ORV use of 1,800 visitor use days per year in the WSA would remain unchanged.	Wilderness designation would displace motor vehicle use of approximately 400 visitor use days per year on 12.0 miles of designated roads and trails.	Wilderness designation would eliminate approximately 400 visitor use days per year of ORV touring, hunting, and rockhounding in the study area.
Water Quality	Sediment discharged into the Bighorn River would not increase. Current naturally occurring sediment loads of about 5,000 tons per year originate from within the WSA.	Sediment discharged into the Bighorn River would not increase. Current naturally occurring sediment loads of about 5,000 tons per year originates from within the WSA.	Sediment loads discharged into the Bighorn River would remain unchanged. Currently, naturally occurring sediment loads of about 5,000 tons per year originate within the WSA.	Range improvement project maintenance will maintain water quality by preventing additional sediment loading into the Bighorn River. Existing sediment loads in the designated area of about 5,000 tons per year into the Bighorn River would remain unchanged.
Wildlife Habitat and Populations	Wilderness designation would assure long-term habitat protection on 8,187 acres. Development is not expected on the remaining 1,913 acres; therefore, wildlife habitat values would be protected.	While there would be no assurance of long-term habitat protection 10,100 acres, development is not expected, therefore, wildlife habitat values will be protected.	Wilderness designation would assure long-term wildlife habitat protection on 10,100 acres. No impacts on or displacement of elk, deer, sage grouse, or raptors would be expected.	Wilderness designation would assure long-term protection of wildlife habitat on 10,780 acres. All wildlife, especially game animals, would benefit in the long term from improved security.
Livestock Grazing	There would be an improvement in livestock distribution and an enhancement of riparian areas because of maintenance of existing range improvement projects. Current livestock grazing use allocation levels of 704 AUMs would continue.	There would be an improvement in livestock distribution and an enhancement of riparian areas because of maintenance of range improvement projects. Current livestock grazing use allocations will remain at 811 AUMs.	There would be improvement in livestock distribution and an enhancement of riparian areas because of maintenance of existing range improvement projects. Current livestock grazing use allocation levels of 811 AUMS would continue.	Current livestock grazing use allocation levels of 811 AUMs would be maintained in the designated area. The opportunity to provide better distribution of livestock would result from maintenance of existing range improvement projects.

Local Social and Economic Considerations

The social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness values.

During the intensive inventory phase, sixteen comments were received on the Alkali WSA. Twelve supported inclusion of this unit as a wilderness study area and four opposed inclusion.

Alkali Creek was not recommended suitable for further study after the initial inventory. Those who supported inclusion of Alkali Creek as a WSA cited that the initial criteria for not proposing the area was in error. They maintained that the "Suicide Road" was incorrectly identified as a road and as a result, the area should receive wilderness study status. The four comments opposing WSA status offered no specific comments and were philosophical in nature.

As a result of the comments received, a subsequent on-the-ground review and review of Bureau guidelines and principles concerning roads was undertaken. It was determined that only a portion the "Suicide Road" was constructed. Subsequently, that portion of the road was cherry-stemmed in order to allow access to the island of private land and the remainder of the inventoried area was determined eligible for further study. The trail has continued to be to used in some degree in conjunction with livestock management and hunting use in the fall.

Draft EIS: During the formal public review of the Draft Washakie RMP/EIS, Draft Washakie Wilderness EIS conducted from November 21, 1986 to February 19, 1987; a total of 169 comments, both oral and written, were received. Two oral comments were received at public hearings held in Thermopolis, Worland, and Greybull, Wyoming; the remaining 167 comments were written responses to the draft EIS. During the comment period, a two interest groups issued a "Wilderness Alert" to their members. These alerts urged their members to write and express their support for wilderness designation. About 121 of the written comments appeared to support the "Wilderness Alert".

Of the 169 comments received 78 percent supported recommending additional wilderness designation. These comments favored designation to protect unique resource values and ecosystems. Approximately 22 percent of the comments received said none of the WSA's should be recommended for wilderness designation. These comments favored mineral exploration/development and the need for continued motor vehicle access.

A total of fifteen letters from local, state and federal agencies were received. These the letters did not support wilderness designation that might restrict development or limit future options. Two letters favored wilderness designation citing enhanced opportunities for hunting and fishing. Ten letters from these agencies commented but made no recommendation for or against wilderness designation.

TRAPPER CREEK
WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 7,200 acres

The Trapper Creek WSA (WY-010-242) includes 7,200 acres of BLM-administered public lands with no private or state inholdings (see table 1 and map). The WSA is located in Big Horn County, 5 miles southeast of Shell Wyoming, along the west slope of the Bighorn Mountains. The boundary along the western and northern portions follow the Black Mountain Road, physical boundaries, and state and private lands. The eastern and southern boundary is the Trapper Rim Road, private land, and legal boundaries (see Map 1).

Trapper Creek is one of the most spectacular canyons on the west slope of the Bighorn Mountains. The canyon is characterized by the dramatic vertical relief of the cliffs, spires, and massive rock outcrops of the canyon walls, the presence of a clear cascading stream, and the rich color combinations. A riparian vegetative community is found along the length of Trapper Creek. A conifer zone dominated by Douglas fir is located on higher elevation north-facing slopes in the canyon. The south-facing slopes support mountain mahogany and juniper, as do the lower elevation north-facing slopes. Sagebrush and grasses are the dominant vegetation on the canyon's rims. Elevation within the WSA ranges from 4,700 feet at the west end to 8,400 feet at the east end.

The WSA was studied under section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA) and was included in the Washakie Wilderness Environmental Impact Statement (EIS) filed in November 1990. There were two alternatives analyzed in the EIS: All Wilderness (7,200 acres); and No Wilderness; The All Wilderness Alternative is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE: 7,200 acres recommended for wilderness
0 acres recommended for nonwilderness

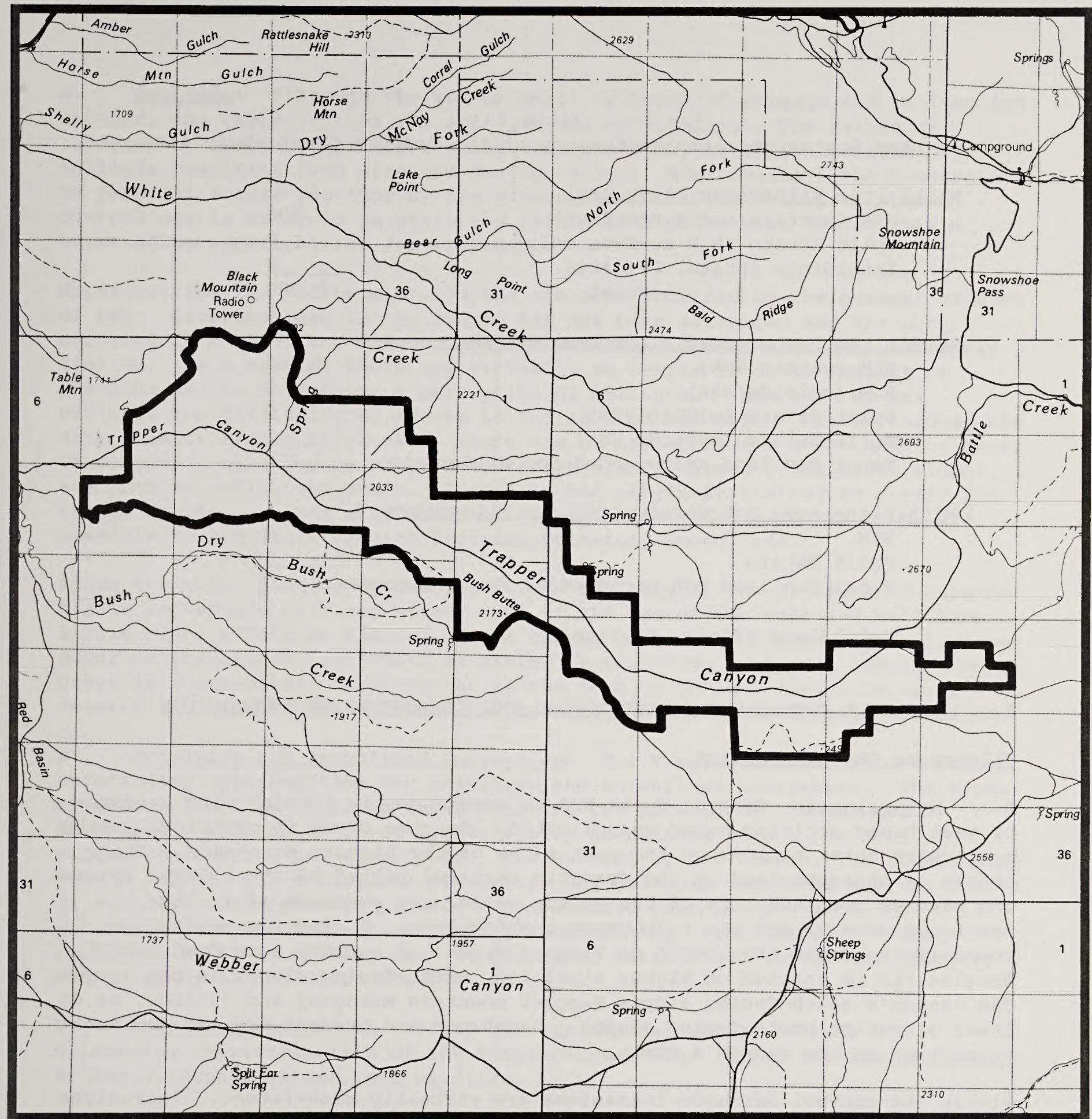
The recommendation is to designate the entire area as wilderness. This is considered to be the environmentally preferable alternative as it will result in the least change in the natural environment over the long term. There are no private or state inholdings within the WSA and all subsurface values are held by the United States.

The area recommended for wilderness designation represents a spectacular canyon, its associated stream and rims. This highly scenic canyon is essentially pristine in nature, and provides a unique opportunity for primitive unconfined recreation and solitude. These values alone are significant enough to warrant wilderness designation.

The variety of supplemental values enhance the significance of the WSA. During a recent Wyoming Natural Area Needs Workshop, Trapper Creek and canyon were given the highest possible recommendation for special management. The area was recommended because it typifies a natural aquatic/wetland area and pristine forest/woodland habitat (Evert, et al. 1985). Trapper Creek contains a nationally significant cave resource with high potential for additional significant discoveries. The WSA is also known to contain important cultural values of early human occupation.

The WSA contains important habitat for rare and endangered species such as bald eagles and peregrine falcons. Trapper Canyon provides elk and deer crucial winter range and is a calving area for elk.

Conflicts with other resources are nonexistent. There is a low potential for mineral resources, and timber operations and livestock use does not take place. The terrain restricts motorized vehicle use. No development is projected to take place in the foreseeable future.



Recommended for Wilderness

NONE — Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

NONE — State

NONE — Private

0 1 2 3 4 5
MILES

Trapper Creek Proposal

WY–010–242
June, 1990

Table 1
Land Status and Acreage Summary of the Trapper Creek Study Area

Within the Wilderness Study Area	
BLM (surface and subsurface)	7,200
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	7,200
Within the Recommended Wilderness Boundary	
BLM (within WSA)	7,200
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land recommended for wilderness	7,200
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM land not recommended for wilderness	0
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness**: Trapper Creek WSA is predominantly natural with evidence of past human activity being very limited. Trapper Creek is contained in the most spectacular canyons on the west slope of the Bighorn Mountains. The canyon is characterized by the dramatic vertical relief of the cliffs, spires, and massive rock outcrops of the canyon walls, the presence of a clear cascading stream, and the rich color combinations. A riparian vegetative community is found the length of Trapper Creek. A conifer zone dominated by Douglas fir is located on higher elevation, north-facing slopes in the canyon. The canyon's south-facing slopes support mountain mahogany and juniper, as do lower elevation north-facing slopes. Sagebrush and grasses are the dominant vegetation on the canyon's rims.

Within the canyon, man-made intrusions are virtually nonexistent. Intrusions are limited to two-track trails leading from the main boundary roads to the rim of the canyon, and a small water pump and pipeline. The overall influence of these human imprints are so few in number that they will not be perceived by the average visitor.

B. **Solitude**: Although the WSA is small in terms of acreage and is long and slender, the opportunities for solitude are outstanding. The values of topographic and vegetative screening counteract any potential affects on solitude resulting from size and configuration. Additionally, the constraints on physical access provided by the canyon rims would make it possible to control use in order to maintain use levels at a point that would protect outstanding opportunities for solitude.

Opportunities for solitude in the WSA are also enhanced by the general absence of use. Livestock use in the canyon has not been allocated and has not occurred in most of the canyon, and recreational use has also been extremely limited. As a result, there are virtually no trails or other remains of previous use to intrude on a perception of solitude. This lack of use reflects the difficulty of access to and through the unit. Travel through the canyon is extremely difficult. There are no trails except those made by game. These game trails may be blocked by fallen timber, cross steep talus slopes, and involve wading the creek. Access to the canyon is limited to a very few routes by the unbroken cliffs of the canyon walls. Those routes which are possible to negotiate require crossing privately owned land.

Since the major portion of the unit is in the canyon, the presence of outside sights and sounds will not affect much of the use of the unit and will have little or no affect on the use of the canyon portion. However, uses which may occur on the canyon rims could be minimally affected. The area around Trapper Creek is uninhabited. Development in the form of fences, livestock water reservoirs, vehicle trails exist in the area but are essentially unintrusive.

C. **Primitive and Unconfined Recreation**: The Trapper Creek unit provides outstanding opportunities for primitive and unconfined recreation. The types of activities that could be engaged in and the setting of the WSA are essentially similar to those traditionally associated with a "typical" wilderness setting and experience. The setting of the canyon, its outstanding scenic values, the ecological diversity, the geologic features, and the wealth of wildlife would provide an excellent resource base for a variety of activities. These activities could include hiking, spelunking, mountain climbing, hunting, fishing, and supplemental activities such as photography, nature study and wildlife observation.

D. **Special Features**: A variety of supplemental values enhance the wilderness characteristics of the Trapper Creek WSA. These include geologic, ecologic, scenic values, and wildlife.

The geologic values associated with this WSA are derived from the exposure of features and formations revealing the geologic history of the region as well as from examples of geologic processes at work. In addition, a second geologic value relates to paleontology of the unit.

Another value relating to the geology of the WSA is the lower entrance to Great Expectations Cave (Great X) is located in the WSA. The lower entrance is approximately 4 miles downstream from the upper entrance. The elevation difference between entrances is 1,403 feet, making Great X the third deepest

cave in the United States. It is expected that intensive exploration of Trapper Creek will yield new discoveries of caves in the canyon. Strong interest in Great X among spelunkers will undoubtedly result in additional discovery of passages.

The Trapper Creek landscape contains high quality scenic values. These values are based on the dramatic vertical relief of the cliffs, spires, and massive rock outcrops of the canyon walls, the rich variety vegetation, the presence of sinking stream segments turning into clear cascading stream, and the rich color combinations. This exceptionally high scenic quality rating enhances other wilderness values of the unit.

Four to five hundred elk and two to three hundred deer use portions of the Trapper Creek WSA as crucial winter and winter habitat. Elk also calve near the confluence of Jack and Trapper creeks. Golden eagles and prairie falcons use and nest in the Trapper Creek WSA. Three or four bald eagles use the Trapper Creek WSA for winter hunting territory. Several peregrine falcons have been observed in this WSA during the spring and summer periods. Bobcats, mountain lion, and black bear frequent lands within the WSA yearlong as well.

Diversity in the National Wilderness Preservation System (NWPS)

A. Expanding the Diversity of Natural Systems and Features, As Represented by Ecosystems and Landforms: Wilderness designation of this WSA would not add to the ecosystem diversity currently in the NWPS. The Trapper Creek WSA is representative of the Sagebrush Steppe ecosystem in the Wyoming Basin Province ecoregion. While, the WSA is classified by Bailey-Kuchler as Sagebrush Steppe the real unique value is the pristine riparian zone contained within the canyon. Fifteen other study areas currently represent this ecosystem. Several of these have been recommended as suitable for wilderness designation including the Honeycombs, Alkali Creek and Trapper Creek WSAs. Within this ecoregion, a portion of the Forest Service administered Cloud Peak Wilderness represents 27,125 acres of the sagebrush steppe ecosystem. This information is summarized in table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acreage	Areas	Acreage
		NATIONWIDE		
Dry Domain/Wyoming Basin Province/Sagebrush Steppe	1	67,026	15	222,831
		WYOMING		
Dry Domain/Wyoming Basin Province/Sagebrush Steppe	1	67,026	15	222,831

B. **Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (Five Hours) of Major Population Centers**: The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents of Major Population Centers

	NWPS areas		Other BLM Studies	
Population Center	Areas	Acreage	Areas	Acreage
Casper, Wyoming	27	4,080,891	32	440,449
Billings, Montana	12	4,808,142	54	3,462,727

C. **Balancing the Geographic Distribution of Wilderness Areas**: Designation of Trapper Creek as wilderness would not improve the balance of the geographic distribution of wilderness. There are currently 2,923,375 acres of wilderness in the vicinity. Currently, there are over 4 million acres of designated wilderness regionally including the following larger units: Absaroka Beartooth (943,610 acres), North Absaroka (350,488 acres), Cloud Peak (189,039 acres), Fitzpatrick (198,525 acres), Popo Agie (101,870 acres), Washakie (704,274 acres), and Bridger (428,087 acres). However, designation of the WSA would add a pristine riparian zone and its associated canyon to the system and diversify ecosystem representation in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The WSA is manageable as wilderness. There are no State or private inholdings which would preclude management. There are no oil and gas leases in the WSA. The physical boundaries of the recommended area including Trapper Canyon, and the rim rock above the canyon form a formidable barrier. There are no resources conflicts within the canyon that would effect manageability.

Energy and Mineral Resource Values

The U.S. Geologic Survey and Bureau of Mines prepared a mineral assessment for Trapper Creek WSA in 1989 (U.S. Geological Survey Bulletin 1756-A). That assessment is the primary source for the following discussion.

The Trapper Creek WSA is considered to have low oil and gas potential. The Trapper Creek WSA is considered to have moderate potential for the occurrence of tar sand deposits. Although no deposits have been located to date, the geology in the WSA is similar to that south of the WSA where tar sands deposits do exist.

Trapper Creek WSA is considered to have low potential for minor silver, base metal sulfides, and rare-earth metals. It is also considered to have moderate potential for Little Mountain-type uranium mineralization (McEldowney, et al. 1977). Silica sand deposits, possibly industrial grade, exist near and possibly in the WSA. One silica sand mining claim is adjacent and approximately 14 claims are located just south of the WSA boundary.

There are no recognized salable mineral values in or adjacent to the WSA; therefore, the potential for salable minerals is low.

Impacts on Other Resources

The following comparative impact table (see table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness. This table of comparative summary of impacts is also stated in the Washakie Wilderness EIS.

Table 4
COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVE

Issue Topics	All Wilderness	No Wilderness
Wilderness Values	The wilderness values of naturalness, solitude, and primitive and unconfined recreation, and the special values, would be protected on 7,200 acres.	The wilderness values of naturalness, solitude, and primitive and unconfined recreation could be impaired on up to 3,000 acres. Special values would continue to be protected. Wilderness values would likely remain unchanged on the remaining 4,200 acres of the WSA.
Mineral Exploration and Production	Wilderness designation would preclude exploration of 7,200 acres; however, no oil and gas exploration is expected to occur and no impacts would result. Exploration for oil and gas would be prohibited. The potential for the occurrence of other mineral resources is low, so no production would be foregone.	Neither leasable, locatable, or salable mineral activity nor oil and gas exploration or development activity is anticipated; therefore, no impacts to any of these resource uses would result.
Recreational Off-Road Vehicle Use	Wilderness designation would displace motor vehicle use on all 7,200 acres which includes 4.6 miles of designated roads and trails. Approximately 100 visitor use days per year utilize the designated roads and trails associated with ORV touring, hunting, and rockhounding.	Recreational ORV use of 100 visitor use days per year in the WSA would remain unchanged.
Water Quality	Sediment loads discharged into the Bighorn River would remain unchanged. Currently, naturally occurring sediment loads of about 4,000 tons per year originate within the WSA.	Sediment discharged into the Bighorn River would not increase. Current naturally occurring sediment loads of about 4,000 tons per year originates from within the WSA.
Wildlife Habitat and Populations	Wilderness designation would assure long-term wildlife habitat protection on 7,200 acres. No impacts on nor displacement of elk, deer, sage grouse, or raptors would be expected.	While there would be no assurance of long-term habitat protection on 7,200 acres, development is not expected; therefore, wildlife habitat values will be protected.
Fisheries	Wilderness designation would provide long-term protection for 10 miles of trout fishery waters. Trout habitat preservation would be emphasized in order to sustain a high quality stream fishery. The opportunity to catch trout would be preserved.	Trout fishing opportunities will continue to be available on 10 miles of Trapper Creek. Excellent fishery conditions are expected to be maintained.
Riparian/Wetlands	Long-term protection of 12.5 miles of mostly pristine riparian/wetland vegetation will be ensured as a result of designation under this alternative.	Pristine riparian/wetland vegetative conditions adjacent to Trapper Creek are expected to be maintained.
Livestock Grazing	Current livestock grazing use allocation levels of 498 AUMS would continue. There would be an improvement in livestock distribution and enhancement of riparian areas because of maintenance of existing range improvement project.	There would be an improvement in livestock distribution and an enhancement of riparian areas because of maintenance of range improvement projects. Current livestock grazing use allocations will remain at 498 AUMs.
Timber Production	No impacts are expected from the removal of 1,324 acres of commercial forestland and 276 acres of woodlands from the timber harvest base since no timber sales are planned in the near future. In the long term, approximately 80 MBF per year of timber production would be lost.	Based on current prescriptions approximately 80 MBF of timber could be produced annually from the Trapper Creek WSA under this alternative. Under current forest management prescriptions no treatments are anticipated on a majority of this area for at least 30 to 50 years because of steep slopes and access constraints.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness values.

During the intensive inventory phase, 32 comments were received on Trapper Creek WSA. Only five opposed inclusion of this unit as a wilderness study area and twenty-seven supported inclusion. Those who opposed wilderness study area status believed that wilderness designation would destroy the values inherent in the WSA by causing overuse. Those favoring additional wilderness studies for Trapper Creek cited that the area did meet all the prerequisites for wilderness study.

Draft EIS: During the formal public review of the draft Washakie RMP/EIS, draft Washakie Wilderness Suitability EIS conducted from November 21, 1986 to February 19, 1987; a total of 169 comments, both oral and written, were received. Two oral comments were received at public hearings held in Thermopolis, Worland, and Greybull Wyoming; the remaining 167 comments were written responses to the draft EIS. During the comment period, two interest groups issued a "Wilderness Alert" to their members. These alerts urged their members to write and express their support for wilderness designation. About 121 of the written comments appeared to support the "Wilderness Alert".

Of the 169 comments received 78 percent supported recommending additional wilderness designation. These comments favored designation to protect unique resource values and ecosystems. Approximately 22 percent of the comments received said none of the WSA's should be recommended for wilderness designation. These comments favored mineral exploration/development and the need for continued motor vehicle access.

A total of fifteen letters from local, state and federal agencies were received. These the letters did not support wilderness designation that might restrict development or limit future options. Two letters favored wilderness designation citing enhanced opportunities for hunting and fishing. Ten letters from these agencies commented but made no recommendation for or against wilderness designation.

SUMMARY ANALYSIS OF SPECIFIC WSA RECOMMENDATIONS

RAWLINS DISTRICT WSAs

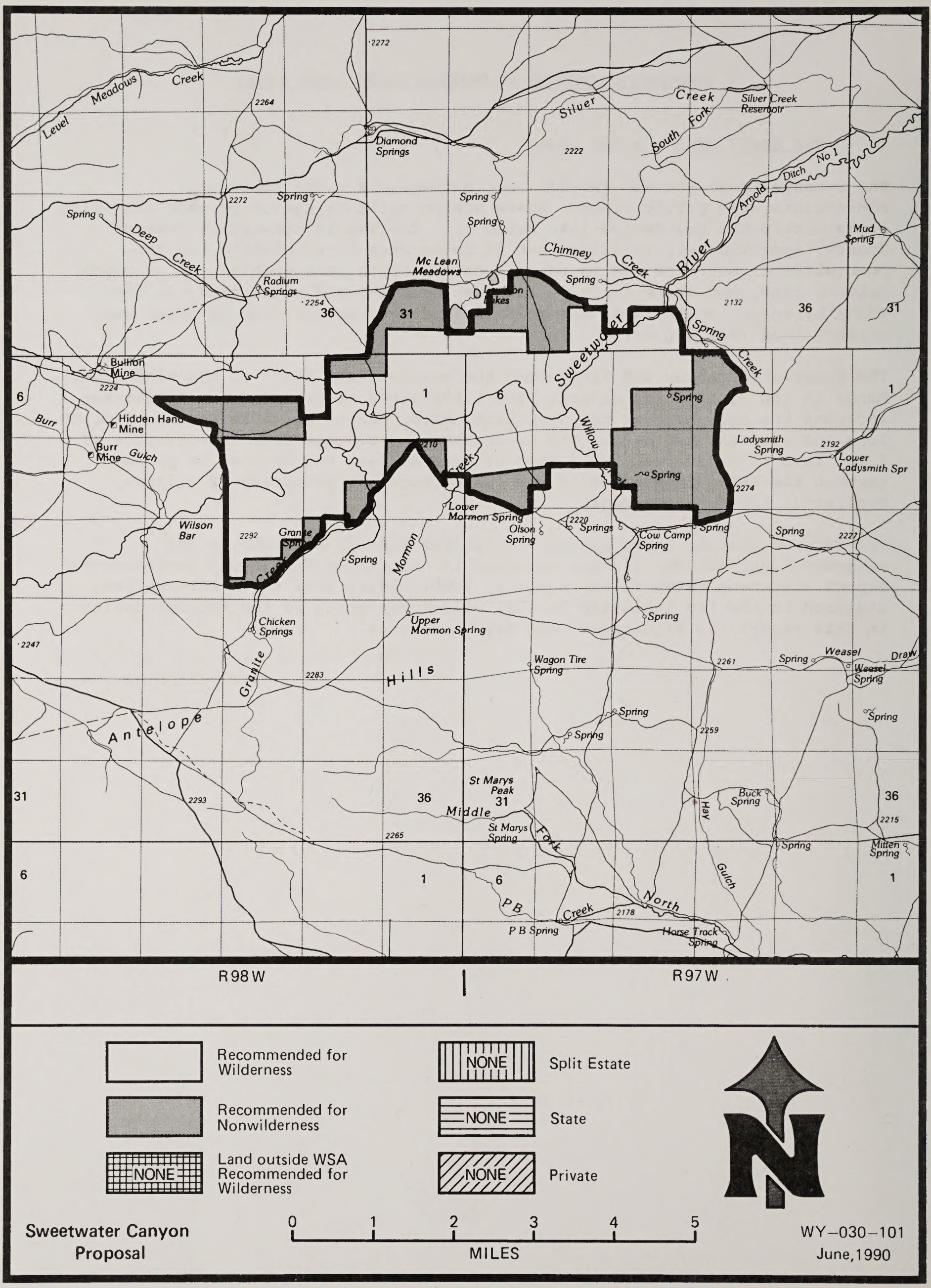
SWEETWATER CANYON WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 9,056 acres

The Sweetwater Canyon WSA (WY-030-101) encompasses 9,056 acres of BLM-administered public lands. There are no split estate or private inholding lands within the boundaries (see table 1). The WSA is located in Fremont County, approximately 15 miles east of South Pass City, Wyoming, on the Sweetwater River. The WSA is bounded on the north be a combination of roads, private land, and state land; on the west by roads and state land; on the south by roads, state land, and private land; and on the east by roads and private land (see Map 1).

The Sweetwater Canyon WSA lies along the southeastern flank of the Wind River Range in the high plains desert. The 5,538 acres recommended for wilderness includes the core area of the Sweetwater River canyon which is roughly 7 miles long and averages 500 deep. The Sweetwater River drops from an elevation of 7,150 feet to 6,720 feet, or a drop of over 60 feet per mile as it passes through the WSA. Vegetation in the canyon consists primarily of willows, coniferous trees, and aspens.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Lander Wilderness Environmental Impact Statement (EIS) filed in April, 1990. There were three alternatives analyzed in the EIS including partial wilderness which is the recommendation in this report, No Wilderness, and All Wilderness.



Sweetwater Canyon Proposal

WY–030–101
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	9,056
Split Estate (BLM surface only)	0
Inholdings (state, private)	0
Total	9,056
Within the Recommended Wilderness Boundary	
BLM (within WSA)	5,538
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended For Wilderness	5,538
Within The Area Not Recommended For Wilderness	
BLM	3,518
Split Estate	0
Total BLM Land Not Recommended For Wilderness	3,518

2. **RECOMMENDATION AND RATIONALE** - **5,538 acres recommended for wilderness**
3,518 acres recommended for nonwilderness

The recommendation for this WSA is to designate 5,538 acres as wilderness and release 3,518 acres for uses other than wilderness (Map 1). The All Wilderness alternative is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts. There are no inholdings or split estate tracts within the portion of the WSA recommended for wilderness in this report.

In recommending this portion of the WSA for wilderness, the high quality of the area's wilderness values was a key consideration. The 5,538 acres recommended for wilderness designation includes the "core area" of the canyon which contains the most outstanding wilderness values and is least affected by human activity. Because of the lack of man-made intrusions in this portion of the WSA, its naturalness is considered exceptional. The river canyon is nearly seven miles long and 500 feet deep. Except for the Strawberry Creek crossing, the canyon is virtually inaccessible to motorized traffic, and there is no evidence of modern man. The wilderness inventory judged this portion of the WSA to be natural in appearance.

Outstanding opportunities for solitude are available throughout the area recommended for wilderness. The river canyon with its dense riparian vegetation and numerous tributary draws provide outstanding opportunities for solitude. Visitors would be able to easily escape from the sights and sounds of others in numerous secluded places along the river or in one of its side canyons.

The recreation values of the portion of the WSA recommended for wilderness are outstanding. This portion of the WSA includes the river canyon and offers exemplary opportunities for hiking, backpacking, fishing, hunting, nature study, and photography. In addition, the portion of the WSA recommended for wilderness is within close proximity to two national historic trails. The natural appearance of the WSA provides a wide expanse of undisturbed landscape similar to that seen by pioneers of the Great American Migration. All these attributes combine to offer a diverse recreation opportunity.

Designation of this portion of the WSA as wilderness would add an ecosystem not currently represented in the wilderness system. The 5,538 acres recommended for wilderness designation are ecologically diverse representing two transition zones, the Wyoming Basin/Wheatgrass-Needlegrass Shrub Steppe, and the Wyoming Basin/Douglas-Fir Forest. Neither of these ecosystems are currently represented in the National Wilderness Preservation System.

A wilderness designation would not result in unmanageable conflicts with other resource uses in the 5,538 acres recommended for such a designation. Livestock grazing would continue, and both grazing use and recreation use would be concentrated in the river canyon. Potential conflicts may occur in the form of requests from visitors to reduce the level of grazing in the canyon bottom, and also from livestock operators to reduce visitor use in order to minimize disturbance to livestock which is inevitable given the narrow canyon in portions of the area. These potential conflicts could be managed through fairly intensive monitoring and management of the livestock and wilderness related recreation use.

The remaining 3,518 acres of the WSA not recommended for wilderness are above the rim of the canyon and consist of rolling hills and prairie. It does not include the Sweetwater River or canyon and is not exemplary of the wilderness values found in the canyon. This area is less natural than the area proposed for wilderness designation and is affected more by existing intrusions such as vehicle ways that run to the canyon rim. It is also more influenced by the sights and sounds of motorized vehicles, and has less screening than the area proposed for wilderness designation. Because there are no physical barriers to vehicle use in this portion of the WSA, it is likely that unauthorized vehicle use would continue in the area. Managing this portion of the WSA as wilderness would thus be extremely difficult.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** Significant human influence is substantially unnoticeable in the WSA. This is particularly true in the river canyon itself. The only intrusions are two-track trails and an abandoned mineral exploration site near the river at the western edge of the WSA.

There are two basic types of topography in the WSA: the canyon with its tributary draws, and the gently rolling hills that surround the canyon. The canyon, which is nearly 7 miles long, is a water-carved gorge nearly 500 feet deep. In places, the walls are nearly vertical. Bare rock exists throughout the gorge. Outcrops along the canyon walls are interspersed with sagebrush, grasses, other shrubs, and pockets of aspen and willow, all of which provide considerable variety in the landscape. Vegetation in the bottom of the gorge and along the river tributaries consists of willow, limber pine, aspen, cottonwoods, and juniper. The contrast between the Sweetwater River Canyon and the surrounding hills is abrupt and striking. The terrain above the gorge is mostly flat with low, gently rolling hills and a few moderately scattered rock outcrops. The area above the canyon is less natural, containing numerous two-track ways.

B. **Solitude:** The river canyon, coupled with dense riparian vegetation and numerous tributary draws, provides a high degree of solitude. The canyon follows the meanders of the Sweetwater River, creating numerous secluded places to escape from the sights and sounds of other visitors. The vegetation along the floor of the canyon and the topography of the canyon screen visitors from one another. There is less opportunity for solitude outside the canyon. Lack of vegetative screening and relatively flat topography contribute to less than outstanding opportunities for solitude.

C. **Primitive and Unconfined Recreation:** The river canyon contains outstanding opportunities for a primitive and unconfined type of recreation. Of all the opportunities for recreation, the river itself is by far the most important. Typically, fishing opportunities attract most visitors to the area. While fishing, visitors usually take advantage of other benefits such as the outstanding solitude, scenery, and camping opportunities along the river. The river offers high quality brown, rainbow, and brook trout fishing. Mule deer are hunted within the canyon. Sage grouse are also hunted, and antelope are hunted on the areas above the canyon.

D. **Special Features:** The portion of the WSA recommended for wilderness provides an important scenic backdrop for two national historic trails and contains an important fur trade era campsite. The campsite was used by the Jedediah Smith fur brigade prior to their discovery of South Pass in 1824, an event that literally opened up the west. Later the Oregon Trail and Mormon Pioneer Trail were both located through South Pass. These two trails lie in close proximity to the WSA.

Thus, the natural appearance of the WSA provides historic trail buffs with a wide expanse of relatively undisturbed landscape similar to that seen by the pioneers of the mid 1800's. The canyon also has high scenic values with a great diversity of color and texture which contrasts sharply with the surrounding desert environment.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would add one ecosystem not presently represented in the National Wilderness Preservation System and would add another represented by only one NWPS unit in Wyoming. Only one other BLM study area contains the Dry Domain/Wyoming Basin Province/Douglas-Fir Forest ecosystem (the Ferris Mountains WSA). There is one NWPS unit (the North Absaroka, 17,000 acres) and six other BLM study areas (all in Wyoming) which contain the Dry Domain/Wyoming Basin Province/Wheatgrass-Needlegrass Shrub Steppe ecosystem. This information is summarized in table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Domain/Province/PNV				
		NATION WIDE		
Dry Domain/Wyoming Basin Province/Douglas-Fir Forest	0	0	1	22,245
Dry Domain/Wyoming Basin Province/Wheatgrass-Needlegrass Shrubsteppe	1	17,000	6	98,558
		WYOMING		
Dry Domain/Wyoming Basin Province/Douglas-Fir Forest	0	0	1	22,245
Dry Domain/Wyoming Basin Province/Wheatgrass-Needlegrass Shrubsteppe	1	17,000	6	98,558

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of one major population center. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	456,603

C. **Balancing the geographic distribution of wilderness areas:** This WSA would not contribute to balancing the geographic distribution of areas within the NWPS. There are many wilderness opportunities throughout Wyoming. There are six designated U.S. Forest Service wilderness areas that date back to the 1964 Wilderness Act. These comprise 2,194,080 acres. In 1984, the Wyoming Wilderness Act added 14 more wilderness areas consisting of 884,049 acres. The nearest wilderness areas are the Washakie, Fitzpatrick, Bridger, and Cloud Peak. All four are within 3 hours driving time from the Sweetwater Canyon WSA area.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The portion of the WSA recommended for wilderness would be manageable as wilderness. Because this area includes only the canyon itself with its steep walls and rough terrain, there is little opportunity for vehicle use within the partial wilderness boundary. As noted earlier, there are conflicts between livestock grazing and recreation uses within the canyon. Although these conflicts will make management of the area more difficult, they will not result in degradation of wilderness values so as to make the area unmanageable as wilderness.

There are about 720 acres covered by placer claims within the portion of the WSA recommended for wilderness. It is assumed that these claims would hold valid discoveries. If it can be shown that the claims were valid as of the date the area is designated wilderness, then development work, extraction, and patenting could occur. The result could be an impairment of wilderness values on and adjacent to the claims that would reduce BLM's ability to manage the area as wilderness. However, the only activity that is expected on these claims would be the annual assessment work, which would disturb less than 5 acres over the long term. Thus, the impact would be insignificant because the surface disturbance would be spread out over 720 acres and would occur over the course of several years.

The remaining 3,518 acres of the WSA would be difficult to manage as wilderness. The topography of this portion of the WSA is such that controlling vehicle use would be extremely difficult, if not impossible. The area is generally flat with no natural barriers to vehicles. Intrusions by vehicles would be fairly common throughout hunting season. There are about 280 acres of lode and placer claims in the portion recommended for nonwilderness. However, no large scale development is expected on the claims and annual assessment work would disturb a maximum of 5 acres over the long term. The impacts on wilderness values would be negligible because the disturbance would be spread over 280 acres and would occur over the course of several years. There is no potential for oil and gas so no exploration or development would be expected.

Energy and Mineral Resource Values

The U.S. Geological Survey and the U.S. Bureau of Mines prepared a mineral assessment for the Sweetwater Canyon WSA in 1988 (U.S. Geological Survey Bulletin 1757-D, 1988). The results of that report provide the basis for the following information.

The western-most part of the Sweetwater Canyon WSA was identified in this assessment as having a high potential for lode gold deposits. The U.S. Bureau of Mines identified four quartz veins in this area. The veins varied from about 2 inches to 2.8 feet thick. Samples were analyzed for gold and the samples ranged from less than 0.002 ounces per ton to 0.114 ounces per ton. The size of any such lode gold deposits would likely be small. Due to a change in geology the remainder of the area is not judged to have lode gold potential.

The gravels of both Strawberry Creek and the Sweetwater River were identified as having high potential for low grade and low tonnage placer gold deposits. Five of the ten samples panned by the U.S. Bureau of Mines contained visible fine gold particles and further analysis showed that all ten samples contained gold. Preliminary calculations suggest the grade is subeconomic under present conditions.

The entire Sweetwater Canyon WSA was identified as having a low potential for tin, tungsten, and uranium in addition to having no potential for oil, gas, or geothermal energy.

Impacts on Other Resources

The following comparative table summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness and implementation of the existing management alternatives.

TABLE 4
COMPARATIVE ANALYSIS OF IMPACTS
Sweetwater Canyon WSA

Issue Topics	Proposed Action (Partial Wilderness)	Alternative 1 (No Wilderness)	Alternative 2 (All Wilderness)
Wilderness Assessment work on approx.	Assessment work on 1,000 700 acres of mining claims would disturb less than 5 acres over the long term. Impacts to naturalness would be negligible. Wilderness values enhanced on 5,538 acres due to elimination of ORVs; solitude and primitive recreation adversely affected by continued ORV use on 3,518 acres, but impact is minimal because ORV use levels are low.	Assessment work on 1,000 acres of mining claims would disturb less than 10 acres over the long term. Impacts to naturalness would be negligible. Solitude and primitive recreation would be adversely affected by continued ORV use on 9.056 acres, but impact is minimal because ORV use levels are low.	acres of mining claims would disturb less than 10 acres over the long term. Impacts to naturalness would be negligible. Solitude and primitive recreation enhanced by elimination of ORV use.
Energy and Mineral Resources closed to further mineral	A total of 5,538 acres mineral entry and leasing. entry and leasing; 3,518 acres would be open to mineral entry and leasing. No significant impacts.	All 9,056 acres open to further entry and No significant impacts. would continue on about 1,000 acres of existing claims. No significant impacts.	All 9,056 acres closed to leasing. Assessment work
Recreation Resources	A total of 100 visitor days annually displaced from 2 miles of vehicle trail on 5,538 acres; no significant impact.	ORVs limited to approximately 3-1/2 miles of existing trails on 9,056 acres. No significant impacts.	A total of 250 visitor days annually displaced from 3-1/2 miles of vehicle trails on 9.056 acres; No significant impact.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

SUMMARY OF WSA - SPECIFIC PUBLIC COMMENTS

Inventory: During the inventory phase, 21 comments were received on the Sweetwater Canyon WSA. Twenty supported inclusion of this unit as a wilderness study area, and one was opposed. Nearly all of the commentors pointed out the need for protection of the resource values in the WSA, but they were not sure if a wilderness designation would provide that protection.

Draft EIS: The draft EIS was released in November 1985. Two public hearings were held in Lander and Dubois in December 1985. A total of 716 comments were received during the formal public review of the EIS; 4 were oral comments, and 712 were written. Comments were general in nature, either favoring or opposing wilderness designation for the entire Sweetwater Canyon WSA and the other five WSAs that were addressed in the EIS.

The comments against wilderness generally voiced the opinion that Wyoming already has too much wilderness in the national forests and national parks. They were concerned that federal lands are being locked up and that nonwilderness uses will be lost by more wilderness designation. They felt that wilderness is too detrimental to the state and local economies because it reduces development in industries such as the timber and mineral-related businesses, and adversely affects such spin-off values such as jobs and tax base. They also generally expressed the feeling that wilderness is restricted to only those young enough and economically able to enjoy the benefits, and public lands should not be set aside for such a small segment of the public. Further concerns were expressed that wilderness would draw more people to a particular area and increase the social problems involved such as trespass on private lands, litter, and vandalism.

Those comments in favor of wilderness protection generally voiced concern that these valuable lands and resources would not get deserved protection without wilderness designation. They expressed the opinion that Wyoming already has too much development such as a proliferation of roads, cleared forests, scenic degradation through mining and mineral leasing, and loss of wildlife and habitat to these developments. They feel that the All Wilderness Alternative should be recommended for Sweetwater Canyon. They feel that the WSA is deserving of wilderness status as a last remaining vestige of the environment which contain special resource values, and that these values which qualify the area for wilderness study should be protected from development.

No federal agency commented specifically on the Sweetwater Canyon WSA. However, one agency, the National Park Service, did offer some general comments on the draft wilderness supplement. Two state agencies, the Wyoming Game and Fish Department and the Geological Survey of Wyoming, agreed with the proposed action for Sweetwater Canyon, which is partial wilderness designation. One state agency, the State Engineer's Office, opposed any designation of wilderness in Sweetwater Canyon. The Office of the Governor did not specifically comment on the Sweetwater Canyon WSA, but indicated a decision would be made on the various recommendations when the total statewide picture became available. Comments were received from three local governments--Dubois, Riverton, and Lander. They all opposed any wilderness designation for Sweetwater Canyon WSA.

COPPER MOUNTAIN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 6,858 acres

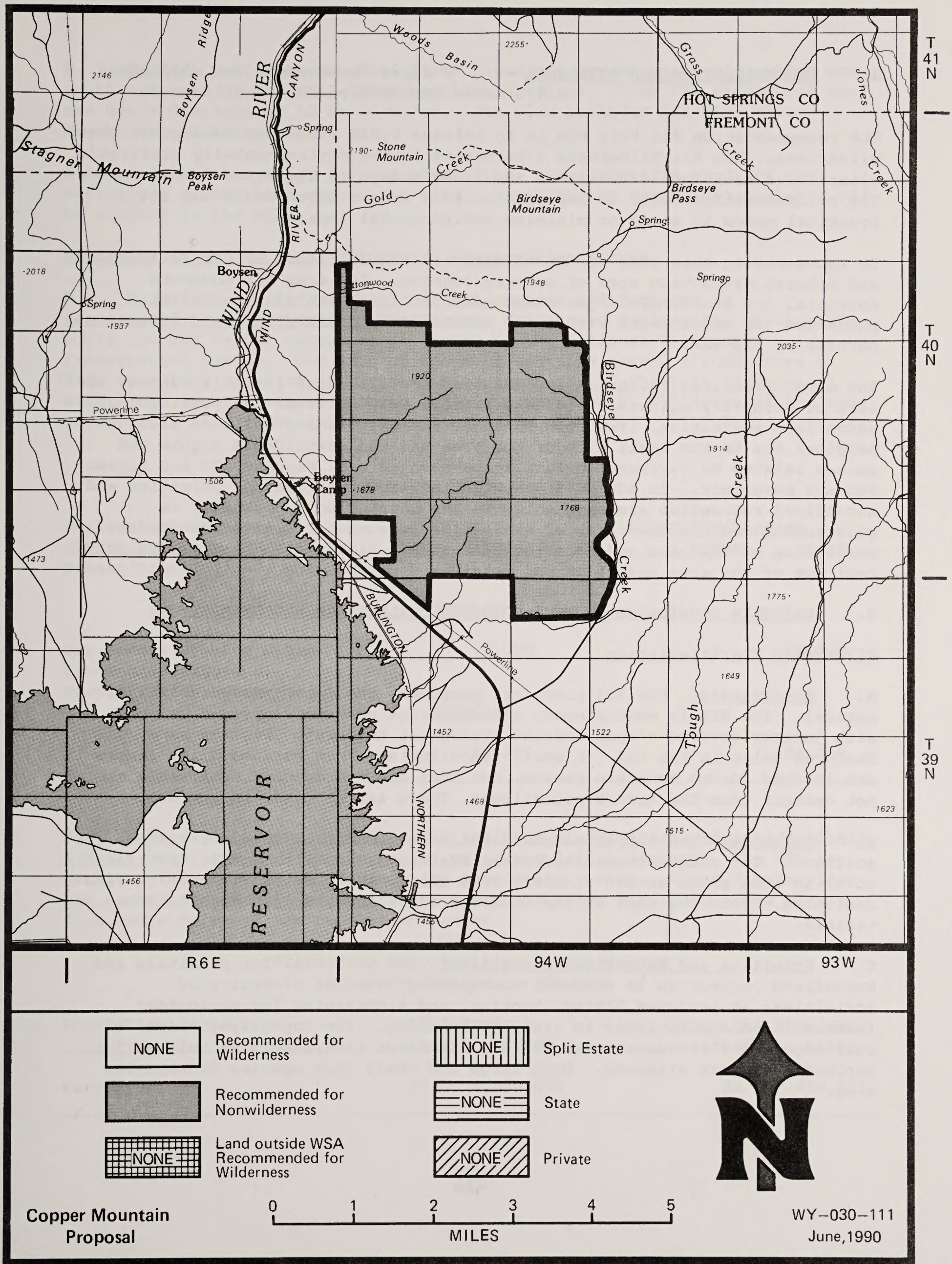
The Copper Mountain WSA (WY-030-111) encompasses 6,858 acres of BLM-administered public lands. There are no split estate or private inholding lands within the boundaries (see Table 1). The WSA is located in Fremont County, approximately 10 miles north of Shoshoni, Wyoming. The WSA is bounded on the west by the Wind River Indian Reservation, on the south and north by private and state lands and on the east by a county road (see Map 1).

The Copper Mountain WSA is situated at the upper end of Wind River Canyon. It is part of the Copper Mountain Range also known as the Bridger Mountains. It is dry, mountainous with scattered limber pine and juniper on rocky slopes. The elevation ranges from 5,000 feet to 6,400 feet. Steep canyons and rocky outcrops have a total relief of 1,400 feet.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Lander Wilderness Environmental Impact Statement (EIS) filed in April, 1990. There were two alternatives analyzed in the EIS; No Wilderness, which is the recommendation, and All Wilderness.

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM surface and subsurface	6,858
Split Estate (BLM surface only)	0
Inholding (state, private)	0
Total	6,858
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
Total BLM Land Recommended for Wilderness	0
Within the Area Not Recommended for Wilderness	
BLM	6,858
Total BLM Land Not Recommended For Wilderness	6,858



Copper Mountain Proposal

WY–030–111
June, 1990

2. **RECOMMENDATION AND RATIONALE** - **0 acres recommended for wilderness**
6,858 acres recommended for nonwilderness

The recommendation for this WSA is to release 6,858 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

In recommending this area for nonwilderness, the conflicts between wilderness and mineral extraction were of primary concern. The area has moderate potential for discovery of gas resources. A field with four wells is projected for development within the WSA boundary, namely in the southern portion of the WSA.

The other principal factor in recommending nonwilderness for this WSA was the lack of exemplary wilderness values, particularly solitude and primitive and unconfined recreation. The opportunities for outstanding solitude are marginal due to the small size of the area and the unavoidable sights and sounds related to surrounding facilities such as U.S. Highway 220 and Boysen Dam and Reservoir. In addition, outstanding opportunities for primitive and unconfined recreation are marginal. No one recreation opportunity is outstanding and the diversity of activities is somewhat limited due to the small size of the area and no water resources. Big game hunting is the only real use of the area and it is not considered outstanding.

3. **CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS**

Wilderness Characteristics

A. **Naturalness:** For all practical purposes, the Copper Mountain WSA is natural. The WSA is mountainous, with numerous rock outcrops and canyons, with juniper covered slopes located throughout the area. Few man-made features exist in the WSA. A small fenceline and some rundown drift fences are located in two mountain passes, but they are not readily noticeable and do not detract from the area's naturalness. There are no roads in the WSA.

B. **Solitude:** The Copper Mountain WSA offers outstanding opportunities for solitude. The rough topography, steep drainages, rocky outcrops, and tree cover in some areas screen visitors from one another, making it easy to find seclusion. From the tops of the mountain and ridges, Boysen Reservoir is visible.

C. **Primitive and Unconfined Recreation:** The potential for primitive and unconfined recreation is somewhat outstanding based on diversity of activities; it includes hiking, hunting, and sightseeing for geological features. No one activity is truly outstanding. The topography offers a challenge and a strenuous walk for day hikers or backpackers as well as for nontechnical rock climbers. Both large and small game species inhabit the area.

D. **Special Features:** The Wind River Basin and Boysen Reservoir, which are south and west of the WSA, offer spectacular views. From the ridge tops one can see a distance of 10 to 50 miles. The view includes the Wind River Mountains and Beaver Rim.

Good opportunities exist for the educational and scientific study of the ecological communities within the area. A variety of geological features can be studied in the WSA.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would not add to the ecosystem diversity of the National Wilderness Preservation System. One unit of the NWPS contains nearly 17,000 acres of this ecosystem (part of the Bridger Wilderness all of which is in Wyoming). Also 5 BLM study areas in Wyoming contain a total of 91,700 acres of the same ecosystem. This information is summarized in Table 2.)

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Domain/Province/PNV				
		NATION WIDE		
Dry Domain/Wyoming Basin Province/Wheatgrass, Needlegrass shrubsteppe	1	17,000	5	91,700
		WYOMING		
	1	17,000	5	91,700

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of one major population center. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	458,801

C. **Balancing the geographic distribution of wilderness areas:** The Copper Mountain WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Four existing areas are within three hours driving time of the Copper Mountain WSA. These include the Washakie, Fitzpatrick, Bridger, and Cloud Peak Wilderness Areas and together they comprise 1,526,781 acres.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The area would be manageable as wilderness. No changes in existing uses would be anticipated over the long term if the area were designated as wilderness. There are no existing oil and gas leases and the only activity expected on the mining claims would be the annual assessment work.

Energy and Mineral Resource Values

The Copper Mountain WSA has potential for the occurrence of oil and gas resources. A discovery well was drilled adjacent to the WSA.

According to Spencer and Powers (USDI, GS 1983), the lands in the Copper Mountain WSA have a low potential for oil and gas. On the basis of experience with the CIGE Well No. 1-4-39-94, these lands probably should be rated moderate. Since this well is the only one to have penetrated the thrust fault in this area, subsurface control can be considered sparse. The well tests from the Cody and Mesaverde Formations show that the environment is highly favorable for the occurrence of gas. However, the area is not in line with existing production from similar traps, and according to the USGS (1983), the WSA cannot be put into the high-potential category.

The Lander Resource Area RMP/EIS rates the oil and gas potential for the area as high and moderate on the basis of the presence of formations highly favorable for the accumulation of hydocarbons. There are no oil and gas leases in the WSA.

Limestone from the Madison Limestone is suitable for cement or industrial and agricultural lime, but availability of the limestone elsewhere, distance to potential markets, and inaccessibility in this area make the development potential low.

Inactive uranium prospects and mines are found in both Eocene sediments and Precambrian rocks to the east of the WSA in T.40N., R.92W., 6th P.M. Uranium in the Teepee Trail Formation is associated with hematinic alteration halos and carbon trash (Yellich, Cramer, and Kendall 1978). Uranium occurrences in the Precambrian rocks are found at geochemical interfaces between descending uranium-carrying oxidized water systems and underlying reducing systems (Yellich, Cramer, and Kendall 1978).

Precambrian rocks are not exposed in the Copper Mountain WSA. However, Precambrian rocks to the east of the WSA contain a broad variety of mineral resources such as iron, copper, gold, silver, tungsten, feldspar, tantalum, beryl, lithium, and rare earth elements. Several mines, some within the past 10 years, have been developed to extract these minerals.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Copper Mountain WSA

Issue Topics	Proposed Action (No Wilderness)	All Wilderness
Wilderness Values	Loss of naturalness, solitude and primitive recreation would occur on 840 acres through oil and gas exploration and development. Assessment work would continue on existing claims. No significant impact on wilderness values.	Wilderness values protected on 6,858 acres. Assessment work would continue on existing mining claims; no impacts on wilderness values.
Energy and Mineral Resources	All 6,858 acres open to mineral entry and leasing. Projected oil field development would not occur. This is considered to be a significant impact	All 6,858 acres closed to mineral entry and leasing.
Recreation Resources	ORVs limited to 2 miles of roads and trails constructed for mineral exploration; no significant impact.	All 6,858 acres closed to ORVs; no impact because no ORV use is occurring now.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Public Comments

Inventory: During the inventory phase, 22 comments were received on the Copper Mountain WSA. Seventeen supported inclusion of this unit as a wilderness study area and 5 were opposed. Those who favored wilderness study believed that a wilderness designation would protect the area's untouched nature, along with its wildlife and scenic values. Those opposed cited the area's potential for oil and gas production as reason for the area not being recommended for wilderness designation.

Draft EIS: The draft EIS was released in November 1985. Two public hearings were held in Lander and Dubois in December 1985. A total of 716 comments were received during the formal public review of the EIS; 4 were oral comment, and 712 were written. Comments were general in nature, either favoring or opposing wilderness designation for the entire Copper Mountain WSA and the other five WSAs that were addressed in the EIS.

The comments against wilderness generally voiced the opinion that Wyoming already has too much wilderness in the national forests and national parks. They were concerned that federal lands are being locked up and that nonwilderness uses will be lost by more wilderness designation. They felt that wilderness is too detrimental to the state and local economies because it reduces development in industries such as the timber and mineral-related businesses, and adversely affects such spin-off values such as jobs and tax base. They also generally expressed the feeling that wilderness is restricted to only those young enough and economically able to enjoy the benefits, and public lands should not be set aside for such a small segment of the public. Further concerns were expressed that wilderness would draw more people to a particular area and increase the social problems involved such as trespass on private lands, litter, and vandalism.

Those comments in favor of wilderness protection generally voiced concern that these valuable lands and resources would not get deserved protection without wilderness designation. They expressed the opinion that Wyoming already has too much development such as a proliferation of roads, cleared forests, scenic degradation through mining and mineral leasing, and loss of wildlife and habitat to these developments. They feel that the All Wilderness Alternative should be recommended for Copper Mountain. They feel that the WSA is deserving of wilderness status as a last remaining vestige of the environment which contain special resource values, and that these values which qualify the area for wilderness study should be protected from development.

No federal agency commented specifically on the Copper Mountain WSA. However, one agency, the National Park Service, did offer some general comments on the draft wilderness supplement. Two state agencies, the Wyoming Game and Fish Department and the Geological Survey of Wyoming, agreed with the proposed action for Copper Mountain, which is no wilderness designation. One state agency, the State Engineer's Office, opposed any designation of wilderness in Copper Mountain. The Office of the Governor did not specifically comment on the Copper Mountain WSA, but indicated a decision would be made on the various recommendations when the total statewide picture became available.

Comments were received from three local governments -- Dubois, Riverton, and Lander. They all opposed any wilderness designation for Copper Mountain WSA.

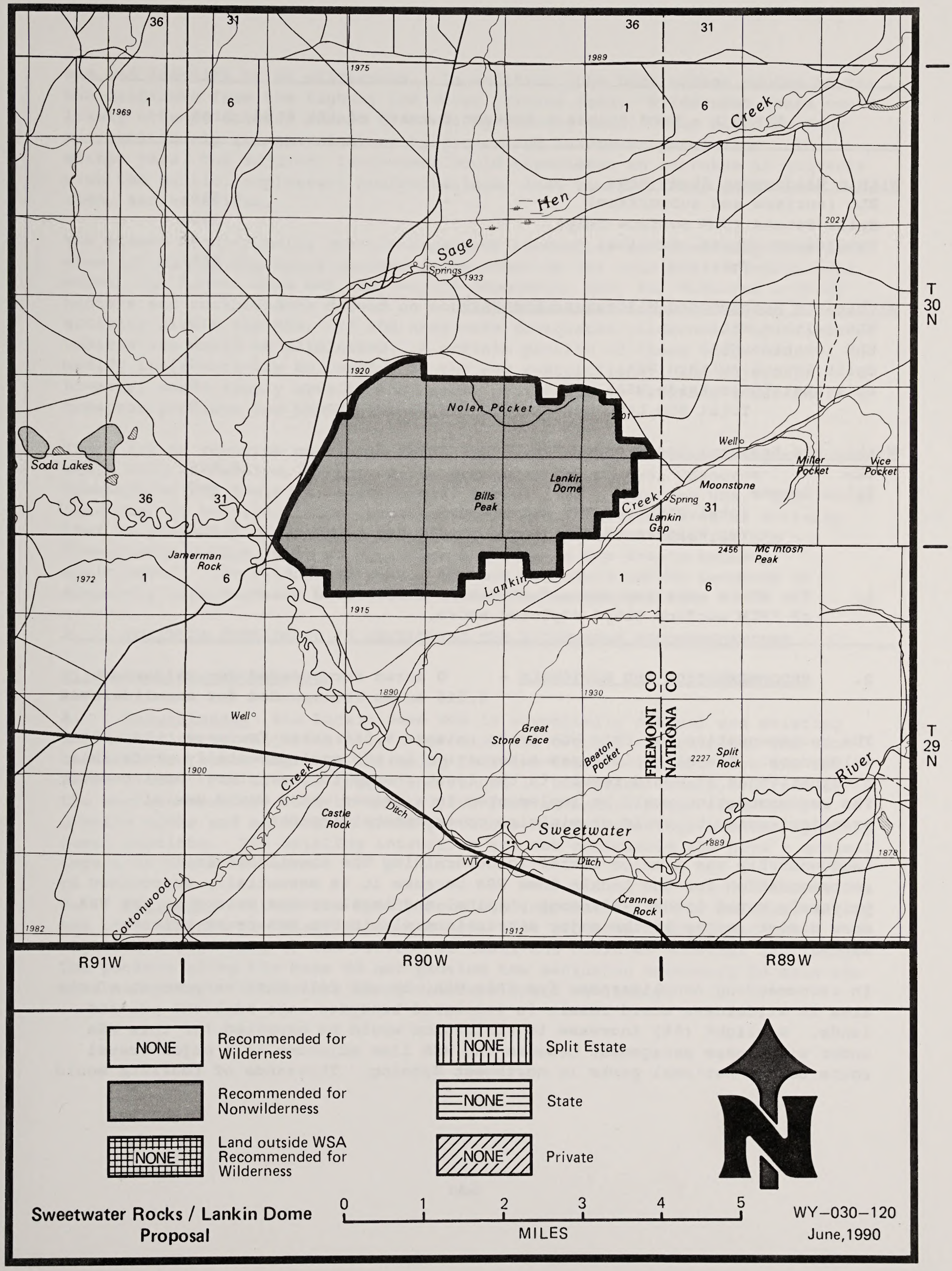
LANKIN DOME WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 6,316 acres

The Lankin Dome WSA (WY-030-120) encompasses 6,316 acres of BLM-administered public lands, including 360 acres of surface split estate lands within the boundaries (see Table 1). The WSA is located in Fremont County, about 10 miles east of Jeffrey City, Wyoming. The WSA is bounded on the west by a road, and on the north, east and south by private or State lands (see Map 1).

Lankin Dome WSA consists of two basic landforms: the uplifted mountains of reddish granite rocks, slabs and exfoliated domes, and the flats of Nolen Pocket north and west of the rocks. The rocks support little vegetation, but the drainages contain pockets of limber pine, juniper, aspen, and sagebrush. At 7,700 feet in elevation, Lankin Dome has long been an attraction to rock climbers. It has a rock climbing history which dates back to the 1950's and has been featured in national magazines such as Summit.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Lander Wilderness Environmental Impact Statement (EIS) filed in April, 1990. There were two alternatives analyzed in the EIS; No Wilderness, which is the recommendation in this report, and All Wilderness.



Sweetwater Rocks / Lankin Dome Proposal

WY–030–120
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	5,956
Split Estate (BLM surface only)	360[1]
Inholdings (state, private)	0
Total	6,316
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Within the Area not Recommended for Wilderness	
BLM	5,956
Split Estate	360[1]
Total BLM Land Not Recommended for Wilderness	6,316

1/ The state owns the subsurface estate for the 360 acres of "BLM surface only" depicted above.

2. **RECOMMENDATION AND RATIONALE** - **0 acres recommended for wilderness**
6,316 acres recommended for nonwilderness

The recommendation for this WSA is to release 6,316 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

Landownership was a major factor in determining the nonwilderness recommendation for the Lankin Dome WSA because it is essentially surrounded by privately owned lands. Although physical and legal access exists to the WSA, more direct routes to the major attractions within the WSA cross private lands.

In recommending nonwilderness for this WSA, it was felt that management of the area as wilderness would result in increased trespass onto adjacent private lands. A slight (5%) increase in visitation would be expected for this WSA under wilderness management because the WSA lies adjacent to a major travel route to the national parks in northwest Wyoming. Thousands of tourists would

see and identify it as wilderness. In addition, the best access routes to the WSA originate from the highway and cross private land. Wilderness users would likely attempt to gain access by crossing private land. This might be done surreptitiously (trespassing) or by requesting landowner permission. In either case, the adjacent landowners would experience an increase in contacts with the public, unpleasant confrontations, lost time, litter, gates left open, and vandalism.

The effect of displacing vehicle-dependent recreation uses onto adjacent land also influenced the nonwilderness recommendation for this WSA. Certain uses within the Lankin Dome WSA are vehicle-dependent; that is, visitors such as hunters and rockhounders depend on motorized vehicles to pursue their leisure activity within the WSA. If the area were designated wilderness, motorized vehicle use would be eliminated. A certain portion of these users would modify their activity to conform to the new restrictions. The majority, however, would simply move to the nearby private lands creating additional trespass problems for the adjacent landowners.

There are no resource conflicts in this WSA which a wilderness designation would help to resolve. There is low potential for mineral resource development and there is no commercial forest land within the WSA. The character of the area is not expected to change. The low level of activity that is presently occuring in the WSA is expected to continue for the foreseeable future, with no appreciable change to the area's natural environment. The wilderness values of this WSA would not be foregone or adversely affected as a result of a nonwilderness designation.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Lankin Dome WSA is essentially natural and existing intrusions do not significantly compromise the overall naturalness. The WSA contains few human imprints including four two-tracked vehicle ways and two fence lines. The area is rugged and ranges in elevation from 6,200 feet at the western boundary road to about 7,700 feet on Lankin Dome. The WSA's granite rocks and exfoliated domes provide a natural setting, uninterrupted by human imprints. The existing intrusions are not noticeable and have a minimal impact on the total area.

B. **Solitude:** Within the Lankin Dome WSA, opportunities for solitude exist, but they are not exemplary since the area that provides topographic and vegetative screening to the visitor is small and would be somewhat confining. The pockets along the base do not provide the seclusion necessary to make the area exemplary. Encounters among visitors would be likely.

C. **Primitive and Unconfined Recreation:** The Lankin Dome WSA offers outstanding opportunities for primitive and unconfined recreation--rock climbing, hiking, backpacking, and hunting. Lankin Dome, the most prominent feature of the unit, has long been an attraction to rock climbers. Backpacking to one of the wooded "pockets" would be one of the recreational activities available. Hunting for antelope is outstanding on the flats because game is abundant and packing distances are short.

D. **Special Features:** The area is exceptionally scenic, with the granite boulders, slabs, and exfoliated domes contrasting significantly with the greens of the wooded pockets. These large expanses of bare granite, which are not found elsewhere in central Wyoming, form a natural and highly scenic backdrop for the Sweetwater River valley, an area that played an important role in the history of the exploration and early settlement of the west.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would add to the ecosystem diversity of the National Wilderness Preservation System. Three other BLM WSAs contain this ecosystem - Savage Peak, Miller Springs, and Split Rock. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
	NATION WIDE			
Dry Domain/ Wyoming Basin Province/Grama-Needlegrass Wheatgrass	0	0	3	26,259
	WYOMING			
	0	0	3	26,259

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of each population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	459,343
Cheyenne, WY	27	1,950,377	11	85,229

C. **Balancing the geographic distribution of wilderness areas:** The Lankin Dome WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Five existing areas are within three hours driving time of the Lankin Dome WSA. These include the Washakie, Fitzpatrick, PoPo Agie, Bridger, and Cloud Peak Wilderness Areas and together they comprise 1,628,772 acres.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The WSA would be manageable as wilderness. No changes in existing uses would be anticipated over the long term, except for the increased use of private lands and resulting trespass problems discussed in the "Recommendation and Rationale" section if the WSA was recommended for wilderness. These social concerns include litter, vandalism, nuisance, and trespass.

Energy and Mineral Resource Values

The Lankin Dome WSA has no potential for the occurrence of oil and gas resources (USGS 1983). The WSA is underlain by Precambrian granitic rocks that are flanked or covered by Tertiary age sedimentary rocks, all of which are not favorable for hydrocarbon generation and reservoir entrapment.

Locatable mineral resources of jade, uranium, thorium, vermiculite, and zeolites occur in formations surrounding the WSA. The sedimentary rocks within the WSA are favorable hosts for jade, uranium, thorium, vermiculite, and zeolites. The pegmatites within the granitic core of the WSA have a low potential for uranium and thorium. The Moonstone and Split Rock Formations have a moderate to high potential and a low to moderate potential, respectively, for uranium and thorium occurrences. The WSA has a moderate to high potential for the occurrence of jade. The sedimentary rocks within and adjacent to the study area have a high favorability for the occurrence of zeolite minerals. The WSA has a high potential for the occurrence of vermiculite. Other minerals having a low to moderate favorability for occurrence include pumicite and sodium carbonate and sulfate deposits.

The Geologic Survey of Wyoming Map Series MS-14 (1985) shows occurrences of gold, silver, and other minerals in or near the Sweetwater Rocks WSAs.

There is presently no commercial production of any mineral resources, with the possible exception of some jade, from lands within the WSA. One mining claim is within the WSA and small quantities of jade have been taken from the claim. Volumes of mineral resources known to occur within the study area are unknown.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Lankin Dome WSA

Issue Topics	No Wilderness (Proposed Action)	All Wilderness
Wilderness Values	ORV use would adversely affect solitude and primitive recreation on less than 10% (less than 600 acres) of the WSA. Assessment work on one jade claim would affect naturalness on less than 1% of the WSA. No significant impact.	Wilderness values protected on 6,316 acres. Assessment work would continue on existing jade mining claim; no impact on wilderness values.
Energy and Mineral Resources	All 6,316 acres open to mineral entry and leasing; assessment work would continue on one jade claim. No significant impact.	All 6,316 acres closed to mineral entry or leasing. Assessment work would continue on one jade claim. No significant impact.
Local Ranching Operations	No increased conflict or impact is expected. No impact on ranching operations.	20% increase (from 50 to 60) in contacts between public and landowners would result in increased disruption of local ranching operations.

Local Social and Economic Considerations

In the event that visitor use did increase appreciably, additional problems, such as gates being left open or damage to roads during wet periods, might occur. In general terms, increased recreation use has the potential of becoming a nuisance for area ranchers. Recreationists seeking information or permission to cross private lands, littering, or damaging range improvements are an unwelcome burden on ranches. Large increases in such annoyances could be an obstacle to the smooth day-to-day operation of a ranch unit. Area ranchers fear this occurrence if the Lankin Dome WSA was designated wilderness. The WSA is an "island" of public land largely surrounded by private and state lands. Private land adjoins the WSA boundaries and several residences or ranch headquarters are in the immediate area.

Summary of WSA - Specific Public Comments

Inventory: During the inventory phase, 26 comments were received on the Lankin Dome WSA. Twenty-two supported inclusion of this unit as a wilderness study area and 4 were opposed. Those who favored wilderness study believed that a wilderness designation would add protection for the area's historic, wildlife, scenic, and recreational attributes. Those opposed expressed concerns over possible conflicts between livestock grazing and wilderness management, and the possible overuse of the area if designated wilderness.

Draft EIS: During formal public review of the draft EIS (released in November, 1985), a total of 716 comments, both oral and written, were received. Of those, four oral statements were received at public hearings held in Lander and Dubois, Wyoming. The remaining 712 comments were written responses to the draft EIS. Comments received during the draft EIS review generally either favored or opposed wilderness designation for the Lankin Dome WSA and the other five WSAs that are addressed in the EIS.

The comments against wilderness generally voice the opinion that Wyoming already has too much wilderness in the national forests and national parks. They are concerned that federal lands are being locked up and multiple use will be lost by more wilderness designation. They feel that wilderness is too detrimental to the state and local economies because it reduces development in industries such as the timber and mineral-related businesses, and adversely affects such spin-off values as jobs and tax base. They also generally expressed the feeling that wilderness is restricted to only those young enough and economically able to enjoy the benefit and should not be set aside for such a small segment of the public. Further concerns were expressed that wilderness would draw more people to a particular area and increase the social problems involved such as trespass on private lands, litter, and vandalism.

Those comments in favor of wilderness protection generally voiced concern that these valuable lands and resources would not get deserved protection without wilderness designation. They expressed the opinion that Wyoming already has too much development such as a proliferation of roads, cleared forests, scenic degradation through mining and mineral leasing, and loss of wildlife and habitat to these developments. They feel that the alternative for all wilderness designation of the study area should be recommended for Lankin Dome as well as all of the other five study areas. They estimate that the total study area acreage makes up less than 1 percent of the land in the resource area. They feel that all are deserving of wilderness status as the last remaining vestiges of the environment which contain special resource values; and that these values which qualify the areas for wilderness study should be protected from development in order to preserve something unique for the benefit of this generation as well as future generations.

Of all the comments received, five were from federal agencies and five were from state agencies. No federal agency commented specifically on the Lankin Dome WSA. However, the National Park Service did offer some general comments on the draft wilderness EIS. Two state agencies, the State Engineer's Office and the Geological Survey of Wyoming, agreed with the proposed action for Lankin Dome, which is nonwilderness designation. One state agency, the Wyoming Game and Fish Department, favored wilderness designation for the Lankin Dome WSA . The Office of the Governor did not specifically comment on the Lankin Dome WSA, but indicated a decision would be made on the various recommendations when the total statewide picture became available.

Comments were received from three local governments--Dubois, Riverton, and Lander. They all opposed any wilderness designation for Lankin Dome WSA (Sweetwater Rocks WSA).

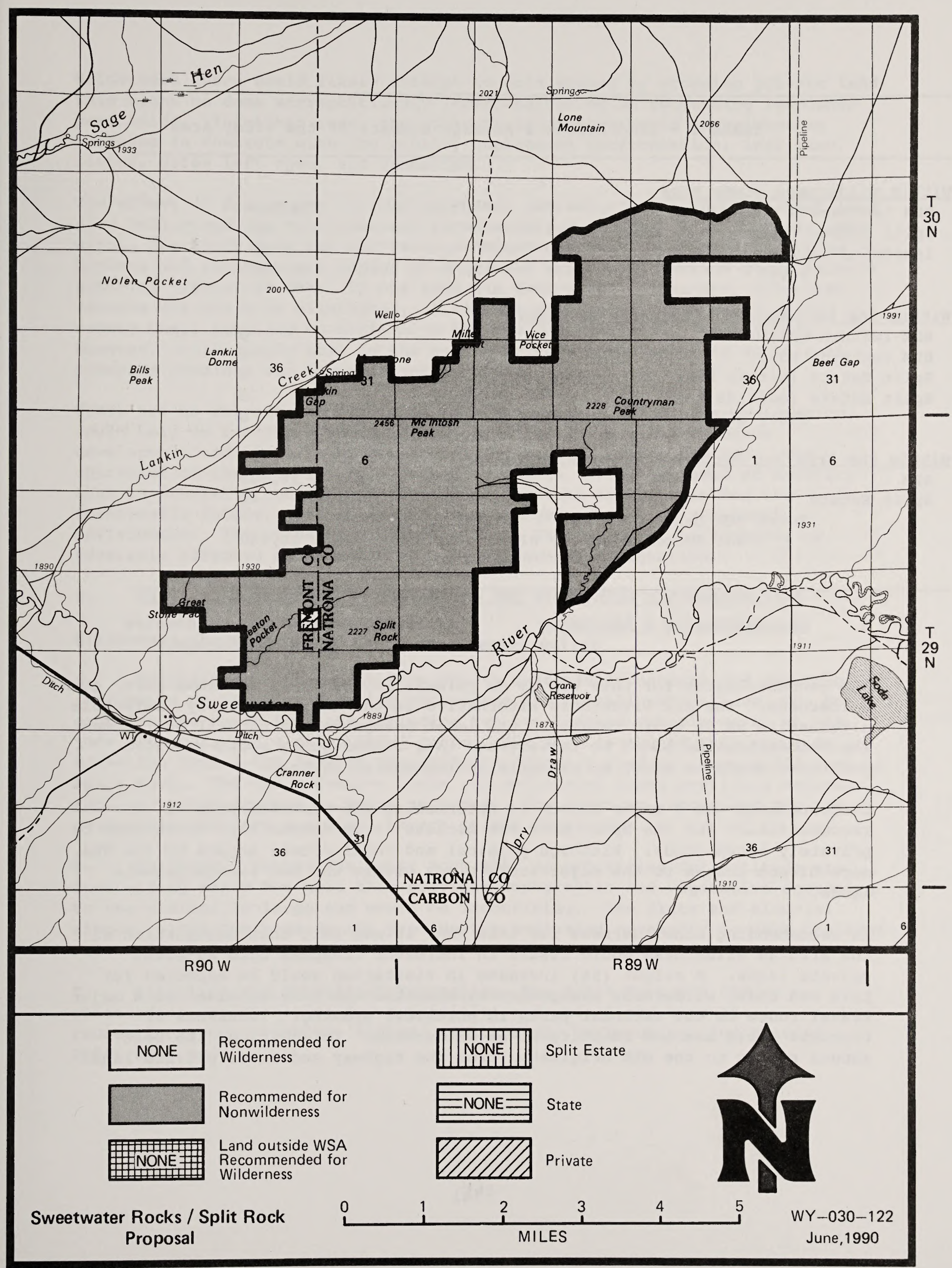
SPLIT ROCK WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 12,789 acres.

The Split Rock WSA (WY-030-122) encompasses 12,789 acres of BLM administered public lands including 40 acres of surface split estate lands and 40 acres private land inholding within the boundaries (see Table 1). The WSA is located in Fremont and Natrona Counties, about 13 miles east of Jeffrey City, Wyoming. The WSA is bounded on the south and west by private and state lands, and on the north and east by private and state lands and a two-track road (see Map 1).

Split Rock WSA consists of two basic landforms: the uplifted mountains of reddish granite rocks, slabs and exfoliated domes, and the flats of Beaton, Miller and Vice Pockets west and north of the rocks, and Beef Gap on the east end. The rocks support little vegetation, but the drainages contain pockets of limber pine, juniper, aspen, and sagebrush. At 7,305 feet in elevation, Split Rock face has long been an attraction to rock climbers. It has a rock climbing history which dates back to the 1950's and has been featured in national magazines such as Summit. The National Outdoor Leadership School has held Spring and Fall semester courses for learning rock climbing techniques and outdoor education on the south end of the WSA for nearly 20 years.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Lander Wilderness Environmental Impact Statement (EIS) filed in April, 1990. There were two alternatives analyzed in the EIS, No Wilderness, which is the recommendation in this report, and All Wilderness.



Sweetwater Rocks / Split Rock Proposal

WY–030–122
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface & subsurface)	12,749
Split Estate (BLM surface only)	40
Inholding (state, private)	40
Total	12,789
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Within the Area Not Recommended For Wilderness	
BLM	12,749
Split Estate	40
Total BLM Land Not Recommended for Wilderness	12,789

2. **RECOMMENDATION & RATIONALE** - **0 acres recommended for wilderness**
12,789 acres recommended for nonwilderness

The recommendation for this WSA is to release 12,789 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

Landownership was a major factor in determining the nonwilderness recommendation for the Split Rock WSA because it is essentially surrounded by privately owned lands. Although physical and legal access exists to the WSA, more direct routes to the major attractions within the WSA lie on private lands.

In recommending nonwilderness for this WSA, it was felt that designation of the area as wilderness would result in increased trespass onto adjacent private lands. A slight (5%) increase in visitation would be expected for this WSA under wilderness management because the WSA lies adjacent to a major travel route to the national parks in northwest Wyoming. Thousands of tourists would see and identify it as wilderness. In addition, the best access routes to the WSA originate from the highway and cross private land.

Wilderness users would likely attempt to gain access by crossing private land. This might be done surreptitiously (trespassing) or by requesting landowner permission. In either case, the adjacent landowners would experience an increase in contacts with the public, unpleasant confrontation, lost time, litter, gates left open, and vandalism.

The effect of displacing vehicle-dependent recreation uses onto adjacent land also influenced the nonwilderness recommendation for this WSA. Certain uses within the Split Rock WSA are vehicle-dependent; that is, visitors such as hunters and rockhounders depend on motorized vehicles to pursue their leisure activity within the WSA. If the area was designated wilderness, motorized vehicle use would be eliminated. A certain portion of these users would modify their activity to conform to the new restrictions. The majority, however, would simply move to the nearby private lands creating additional trespass problems for the adjacent landowners.

There are no resource conflicts in this WSA which a wilderness designation would help to resolve. There is low potential for mineral resource development and there is no commercial forest land within the WSA. The character of the area is not expected to change. The low level of activity that is presently occuring in the WSA is expected to continue for the foreseeable future, with no appreciable change to the area's natural environment. The wilderness values of this WSA would not be foregone or adversely affected as a result of a nonwilderness designation.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. Naturalness: The Split Rock WSA is essentially natural and existing intrusions do not significantly compromise the overall naturalness. The WSA contains few human imprints including two two-tracked vehicle ways, an old jade prospect, and a dilapidated cabin. The area is rugged and ranges in elevation from 6,115 feet at the southern boundary road to about 8,058 feet on Split Rock. The WSA's granite rocks and exfoliated domes provide a natural setting, uninterrupted by human imprints. The existing intrusions are not noticeable and have a minimal impact on the total area.

B. Solitude: Within the Split Rock WSA, opportunities for solitude are outstanding since the area that provides topographic and vegetative screening to the visitor is large and would be unconfining. The flats and alluvial slopes along the base do not provide the seclusion necessary to make the area outstanding.

C. Primitive and Unconfined Recreation The Split Rock WSA offers outstanding opportunities for a primitive and unconfined type of recreation--rock climbing, hiking, sightseeing, backpacking, and hunting. Split Rock and

McIntosh Peak the most prominent feature of the unit, has long been an attraction to rock climbers. Backpacking to one of the wooded "pockets" would be one of the recreational activities available. Hunting for antelope is outstanding on the flats because game is abundant and packing distances are short.

D. **Special Features** The area is exceptionally scenic, with the granite boulders, slabs, and exfoliated domes contrasting significantly with the greens of the wooded pockets. These large expanses of bare granite, which are not found elsewhere in central Wyoming, form a natural and highly scenic backdrop for the Sweetwater River valley, an area that played an important role in the history of the exploration and early settlement of the west. Split Rock is an important landmark for Oregon/Mormon Pioneer National Historic Trails and is listed on the National Register of Historic Places. It offers an ideal rock climbing training area for National Outdoor Leadership School Courses.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would add to the ecosystem diversity of the National Wilderness Preservation System. Three other BLM WSAs contain this ecosystem - Lankin Dome, Savage Peak, and Miller Springs. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
	NATION WIDE			
Dry Domain/Wyoming Basin Province/Grama-Needlegrass Wheatgrass	0	0	3	19,786
	WYOMING			
	0	0	3	19,786

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of each population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	452,870
Cheyenne, WY	27	1,950,377	11	78,756

C. **Balancing the geographic distribution of wilderness areas:** The Split Rock WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Five existing areas are within three hours driving time of the Split Rock WSA. These include the Washakie, Fitzpatrick, PoPo Agie, Bridger, and Cloud Peak Wilderness Areas and together they comprise 1,628,772 acres.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The WSA would be manageable as wilderness. No changes in existing uses would be anticipated over the long term, except for the increased use of private lands and resulting trespass problems discussed in the "Recommendation and Rationale" section if the WSA was recommended for wilderness. These social concerns include litter, vandalism, nuisance, and trespass.

Energy and Mineral Resource Values

The Split Rock WSA has no potential for the occurrence of oil and gas resources (USGS 1983). The WSA is underlain by Precambrian granitic rocks that are flanked or covered by Tertiary age sedimentary rocks, all of which are not favorable for hydrocarbon generation and reservoir entrapment.

Locatable mineral resources of jade, uranium, thorium, pumicite, vermiculite, and zeolites occur in formations surrounding the WSA. The sedimentary rocks within the WSA are favorable hosts for jade, uranium, thorium, vermiculite, and zeolites. The pegmatites within the granitic core of the WSA have a low potential for uranium and thorium. The Moonstone and Split Rock Formations have a moderate to high potential and a low potential, respectively, for uranium and thorium occurrences. The WSA has a moderate to high potential for the occurrence of jade. The sedimentary rocks within and adjacent to the study area have a high favorability for the occurrence of zeolite minerals. The WSA has a moderate to high potential for the occurrence of vermiculite. Other minerals having a low to moderate favorability for occurrence include pumicite and sodium carbonate and sulfate deposits.

The Geologic Survey of Wyoming Map Series MS-14 (1985) shows occurrences of gold, silver, and other minerals in or near the Sweetwater Rocks WSA's.

There is presently no commercial production of any mineral resources, with the possible exception of some jade, from lands within the WSA. One mining claim is within the WSA and small quantities of jade have been taken from the claim. Volumes of mineral resources known to occur within the study area are unknown.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Split Rock WSA

Issue Topics	No Wilderness (Proposed Action)	All Wilderness
Wilderness Values	ORV use would adversely affect solitude and primitive recreation on less than 10% (less than 1,200 acres) of the WSA. Assessment work on jade claim would affect naturalness on less than 1% of the WSA. No significant impact.	Wilderness values protected on 12,780 acres. Assessment work would continue on existing mining claim; no significant impact on wilderness values.
Energy and Mineral Resources	All 12,789 acres open to mineral entry and leasing; assessment work would continue on one jade claim. No significant impact.	All 12,749 acres closed to to mineral entry or leasing Assessment work would continue on one jade claim.
Local Ranching Operations	No increased conflict or impact is expected. No impact on ranching operations.	30% increase (from 50 to 65) in contacts between public and landowners would result in increased disruption of local ranching operations.

Local Social and Economic Considerations

In the event that visitor use did increase appreciably, additional problems, such as gates being left open or damage to roads during wet periods, might occur. In general terms, increased recreation use has the potential of becoming a nuisance for area ranchers. Recreationists seeking information or permission to cross private lands, littering, or damaging range improvements are an unwelcome burden on ranches. Large increases in such annoyances could be an obstacle to the smooth day-to-day operation of a ranch unit. Area ranchers fear this occurrence if the Split Rock WSA was designated wilderness. The WSA is an "island" of public land largely surrounded by private and state lands. Private land adjoins the WSA boundaries and several residences or ranch headquarters are in the immediate area.

Summary of WSA - Specific Public Comments

Inventory: During the inventory phase, 23 comments were received on the Split Rock WSA. Twenty-one supported inclusion of this unit as a wilderness study area and 2 were opposed. Those who favored wilderness study believed that a wilderness designation would add protection for the area's historic, wildlife, scenic, and recreational attributes. Those opposed expressed concerns over possible conflicts between livestock grazing and wilderness management, and the possible overuse of the area if designated wilderness.

Draft EIS: During formal public review of the draft EIS (released in November, 1985), a total of 716 comments, both oral and written, were received. Of those, four oral statements were received at public hearings held in Lander and Dubois, Wyoming. The remaining 712 comments were written responses to the draft EIS. Comments received during the draft EIS review generally either favored or opposed wilderness designation for the Split Rock WSA and the other five WSAs that are addressed in the EIS.

The comments against wilderness generally voice the opinion that Wyoming already has too much wilderness in the national forests and national parks. They are concerned that federal lands are being locked up and multiple use will be lost by more wilderness designation. They feel that wilderness is too detrimental to the state and local economies because it reduces development in industries such as the timber and mineral-related businesses, and adversely affects such spin-off values as jobs and tax base. They also generally expressed the feeling that wilderness is restricted to only those young enough and economically able to enjoy the benefit and should not be set aside for such a small segment of the public. Further concerns were expressed that wilderness would draw more people to a particular area and increase the social problems involved such as trespass on private lands, litter, and vandalism.

Those comments in favor of wilderness protection generally voiced concern that these valuable lands and resources would not get deserved protection without wilderness designation. They expressed the opinion that Wyoming already has too much development such as a proliferation of roads, cleared forests, scenic degradation through mining and mineral leasing, and loss of wildlife and habitat to these developments. They feel that the alternative for all wilderness designation of the study area should be recommended for Split Rock

as well as all of the other five study areas. They estimate that the total study area acreage makes up less than 1 percent of the land in the resource area. They feel that all are deserving of wilderness status as the last remaining vestiges of the environment which contain special resource values; and that these values which qualify the areas for wilderness study should be protected from development in order to preserve something unique for the benefit of this generation as well as future generations.

Of all the comments received, five were from federal agencies and five were from state agencies. No federal agency commented specifically on the Split Rock WSA. However, the National Park Service did offer some general comments on the draft wilderness EIS. Two state agencies, the State Engineer's Office and the Geological Survey of Wyoming, agreed with the proposed action for Split Rock, which is nonwilderness designation. One state agency, the Wyoming Game and Fish Department, favored wilderness designation for the Split Rock WSA . The Office of the Governor did not specifically comment on the Split Rock WSA, but indicated a decision would be made on the various recommendations when the total statewide picture became available.

Comments were received from three local governments--Dubois, Riverton, and Lander. They all opposed any wilderness designation for Split Rock WSA (Sweetwater Rocks WSA).

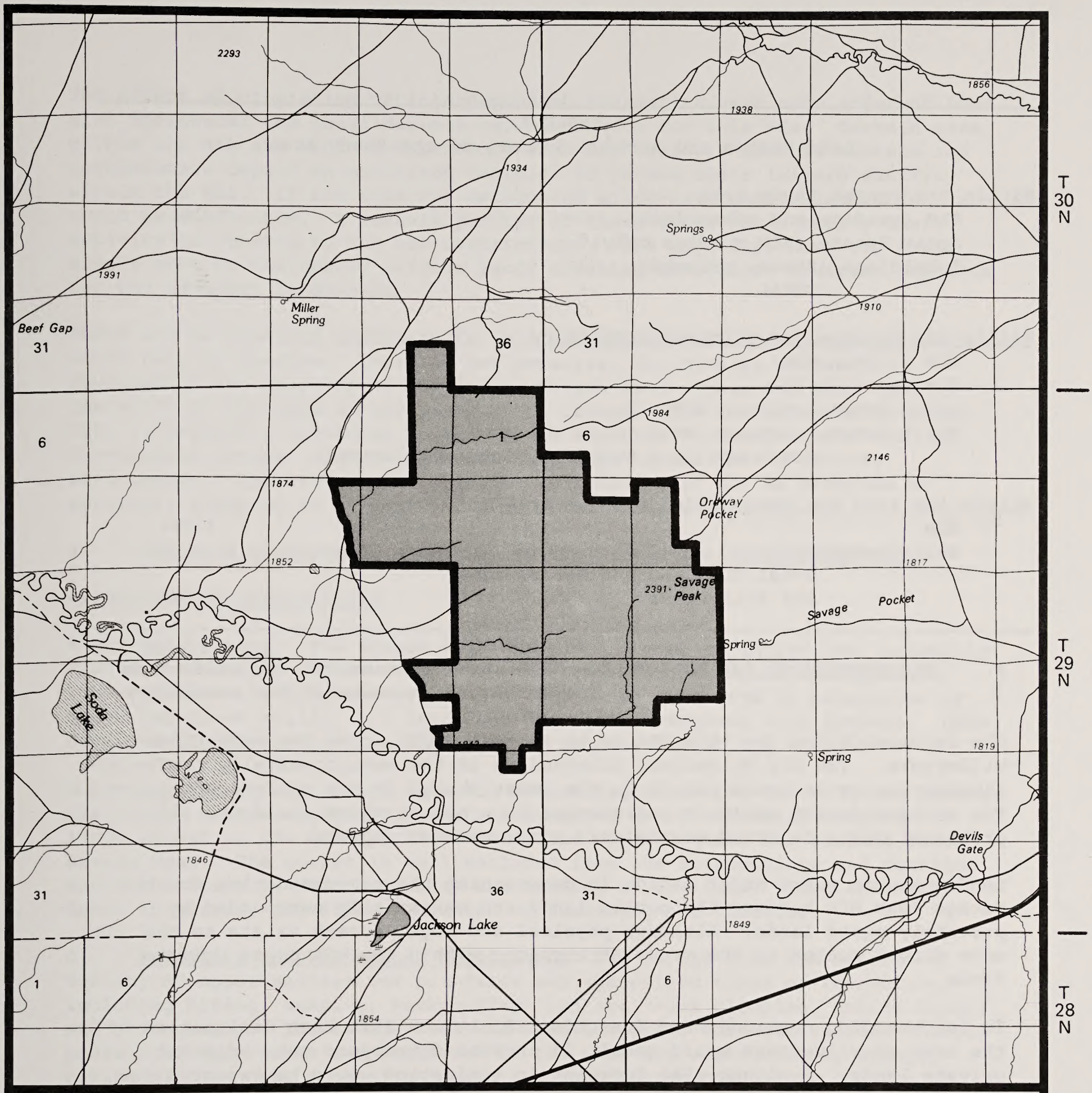
SAVAGE PEAK WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 7,041 acres

The Savage Peak WSA (WY-030-123a) encompasses 7,041 acres of BLM-administered public lands (see Table 1). There are no split estate or private inholding lands within the boundaries. The WSA is located in Natrona County about 31 miles east of Jeffrey City, Wyoming. It is bounded by the Savage Peak WSA on the west with intervening public and private lands; and by other public, state and private lands on the remainder of the boundary (see Map 1).

Most of the Savage Peak WSA is rugged and mountainous. Large expanses of bare rock predominate throughout. Vegetation is generally sparse, but there are some dense stands of Douglas-fir, limber pine, aspen, and cottonwood in drainages. Juniper is scattered throughout the unit. Sagebrush, rabbitbrush, and grasses are found on surrounding plains.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Lander Wilderness Environmental Impact Statement (EIS) filed in April, 1990. There are two alternatives analyzed in the EIS, No Wilderness, which is the recommendation of this report and All Wilderness.



NONE — Recommended for Wilderness

Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

NONE — State

NONE — Private

N

Sweetwater Rocks / Savage Peak Proposal

0 1 2 3 4 5
MILES

WY–030–123A
June,1990

TABLE 1

Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface	7,041
Split Estate (BLM surface only)	0
Inholdings (State, private)	0
TOTAL	7,041
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Within the Area Not Recommended for Wilderness	
BLM	7,041
Split Estate	0
Total BLM Land Not Recommended For Wilderness	7,041

2. **RECOMMENDATION AND RATIONALE** - **0 acres recommended for wilderness**
7,041 acres recommended for nonwilderness

The recommendation for this WSA is to release 7,041 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

Landownership was a major factor in determining the recommendation for the Savage Peak WSA because the public lands are essentially surrounded by privately owned lands. Although physical and legal access exists to the WSA, more direct routes to the major attractions within the WSA cross private lands.

In recommending nonwilderness for this WSA, it was felt that designation of the area as wilderness would result in increased trespass onto adjacent private lands. A slight (5%) increase in visitation would be expected for this WSA under wilderness management because the WSA lies adjacent to a major travel route to the national parks in northwest Wyoming. Thousands of tourists would see and identify it as wilderness. In addition, the best access routes to the WSA originate from the highway and cross private land. Wilderness users would likely attempt to gain access by crossing private land. This might be done surreptitiously (trespassing) or by requesting landowner permission. In either case, the adjacent landowners would experience an increase in contacts with the public, unpleasant confrontation, lost time, litter, gates left open, and vandalism.

The effect of displacing vehicle-dependent recreation uses onto adjacent land also influenced the nonwilderness recommendation for this WSA. Certain uses within the WSA are vehicle-dependent; that is, visitors such as hunters and rockhounders depend on motorized vehicles to pursue their leisure activity within the WSA. If the area was designated wilderness, motorized vehicle use would be eliminated. A certain portion of these users would modify their activity to conform to the new restrictions. The majority, however, would simply move to the nearby private lands creating additional trespass problems for the adjacent landowners.

There are no resource conflicts in this WSA which a wilderness designation would help to resolve. There is low potential for mineral resource development and there is no commercial forest land within the WSA. The character of the area is not expected to change. The low level of activity that is presently occurring in the WSA is expected to continue for the foreseeable future, with no appreciable change to the area's natural environment. The wilderness values of this WSA would not be foregone or adversely affected as a result of a nonwilderness designation.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Savage Peak WSA has a number of intrusions, primarily fences and vehicle ways. Several two-tracked ways penetrate the "pockets" that surround the granite rocks. The central or core area is penetrated by three two-track trails, all faint and generally overgrown with grasses. None detracts significantly from the apparent naturalness of the area.

B. **Solitude:** The Savage Peak WSA offers opportunities for solitude through its rough, broken topography, and the numerous draws and small canyons. A large pocket on the west provides excellent opportunities for camping below Savage Peak. The pocket is well secluded from the surroundings and contains excellent scenery, which enhances the feeling of solitude. Vegetation is dense in places, providing seclusion or screening for visitors.

C. **Primitive and Unconfined Recreation:** The Savage Peak WSA affords a variety of opportunities for primitive and unconfined types of recreation, including hiking, camping, backpacking, hunting, rock climbing, nature study, and photography. The Savage Peak WSA contains great vertical relief. Large pockets of open grass and sagebrush on the west are surrounded by steeply rising slopes. The size of the area and its diverse topography combine to provide some high quality opportunities for primitive recreation.

D. **Special Features:** Large expanses of bare granite are not found elsewhere in central Wyoming. In this WSA, they form a natural and highly scenic backdrop for the Sweetwater River valley, which has a long history related to the exploration and early settlement of the west.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would add to the ecosystem diversity of the National Wilderness Preservation System. Three other BLM WSAs contain this ecosystem - Lankin Dome, Split Rock, and Miller Springs. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
		NATION WIDE		
Dry Domain/Wyoming Basin Province/Grama-Needlegrass Wheatgrass	0	0	3	26,259
		WYOMING		
	0	0	3	26,259

2. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of each population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, WY	27	4,080,891	32	458,618
Cheyenne, WY	27	1,950,377	11	84,504

C. **Balancing the geographic distribution of wilderness areas:** The Savage Peak WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Five existing areas are within three hours driving time of the WSA. These include the Washakie, Fitzpatrick, PoPo Agie, Bridger, and Cloud Peak Wilderness Areas and together they comprise 1,628,772 acres.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character).

The WSA would be manageable as wilderness. No changes in existing uses would be anticipated over the long term, except for the increased use of private lands and resulting trespass problems discussed in the "Recommendation and Rationale" section if the WSA was recommended for wilderness. These social concerns include litter, vandalism, nuisance, and trespass.

Energy and Mineral Resource Values

The Savage Peak WSA has no potential for the occurrence of oil and gas resources. The WSA is underlain by Precambrian granitic rocks that are flanked or covered by Tertiary age sedimentary rocks, all of which are not favorable for hydrocarbon generation and reservoir entrapment.

Locatable mineral resources of jade, uranium, thorium, vermiculite, and zeolites occur in formations surrounding the WSA. The sedimentary rocks within the WSA are favorable hosts for jade, uranium, thorium, vermiculite, and zeolites. The pegmatites within the granitic core of the WSA have a low potential for uranium and thorium. The Moonstone and Split Rock Formations have a moderate to high potential and a low potential, respectively, for uranium and thorium occurrences. The WSA has a moderate to high potential for the occurrence of jade. The sedimentary rocks within and adjacent to the study area have a high favorability for the occurrence of zeolite minerals. The WSA has a moderate to high potential for the occurrence of vermiculite. Other minerals having a low to moderate favorability for occurrence include pumicite and sodium carbonate and sulfate deposits.

The Geological Survey of Wyoming Map Series MS-14 (1985) shows occurrences of gold, silver, and other minerals in or near the Sweetwater Rocks WSA's.

There is presently no commercial production of any mineral resources from lands within the WSA. No lands are leased for oil and gas, and there are no mining claims located in the study area. Volumes of mineral resources known to occur within the study area are unknown.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Savage Peak Dome WSA

Issue Topics	No Wilderness (Proposed Action)	All Wilderness (Alternative I)
Wilderness Values	ORV use would adversely affect solitude and primitive recreation on less than 10% (less than 700 acres) of the WSA. No significant impact.	Wilderness values protected on 7,041 acres.
Energy and Mineral Resources	All 7,041 acres open to mineral entry and leasing; no significant impact.	All 7,041 acres closed to mineral entry and leasing. No significant impact.
Local Ranching Operations	No increased conflict or impact is expected. No impact on ranching operations.	25% increase (from 40 to 50) in contacts between public and landowners would result in increased disruption of local ranching operations.

Local Social and Economic Considerations

In the event that visitor use did increase appreciably, additional problems, such as gates being left open or damage to roads during wet periods, might occur. In general terms, increased recreation use has the potential of becoming a nuisance for area ranchers. Recreationists seeking information or permission to cross private lands, littering, or damaging range improvements are an unwelcome burden on ranches. Large increases in such annoyances could be an obstacle to the smooth day-to-day operation of a ranch unit. Area ranchers fear this occurrence if the Savage Peak WSA was designated wilderness. The WSA is an "island" of public land largely surrounded by private and state lands. Private land adjoins the WSA boundaries and several residences or ranch headquarters are in the immediate area.

Summary of WSA - Specific Public Comments.

Inventory: During the inventory phase, 25 comments were received on the Savage Peak WSA. Twenty supported inclusion of this unit as a wilderness study area, and 5 were opposed. Those who favored wilderness study believed that a wilderness designation would add protection for the area's historic, wildlife, scenic, and recreational attributes. Those opposed expressed concerns over possible conflicts between livestock grazing and wilderness management, and the possible overuse of the area if designated wilderness.

Draft EIS: During formal public review of the draft EIS (released in November, 1985), a total of 716 comments, both oral and written, were received. Of those, four oral statements were received at public hearings held in Lander and Dubois, Wyoming. The remaining 712 comments were written responses to the draft EIS. Comments received during the draft EIS review generally either favored or opposed wilderness designation for the Savage Peak WSA and the other five WSAs that are addressed in the EIS.

The comments against wilderness generally voice the opinion that Wyoming already has too much wilderness in the national forests and national parks. They are concerned that federal lands are being locked up and multiple use will be lost by more wilderness designation. They feel that wilderness is too detrimental to the state and local economies because it reduces development in industries such as the timber and mineral-related businesses, and adversely affects such spin-off values as jobs and tax base. They also generally expressed the feeling that wilderness is restricted to only those young enough and economically able to enjoy the benefit and should not be set aside for such a small segment of the public. Further concerns were expressed that wilderness would draw more people to a particular area and increase the social problems involved such as trespass on private lands, litter, and vandalism.

Those comments in favor of wilderness protection generally voiced concern that these valuable lands and resources would not get deserved protection without wilderness designation. They expressed the opinion that Wyoming already has too much development such as a proliferation of roads, cleared forests, scenic degradation through mining and mineral leasing, and loss of wildlife and habitat to these developments. They feel that the alternative for all wilderness designation of the study area should be recommended for Savage Peak

as well as all of the other five study areas. They estimate that the total study area acreage makes up less than 1 percent of the land in the resource area. They feel that all are deserving of wilderness status as the last remaining vestiges of the environment which contain special resource values; and that these values which qualify the areas for wilderness study should be protected from development in order to preserve something unique for the benefit of this generation as well as future generations.

Of all the comments received, five were from federal agencies and five were from state agencies. No federal agency commented specifically on the Savage Peak WSA. However, the National Park Service did offer some general comments on the draft wilderness EIS. Two state agencies, the State Engineer's Office and the Geological Survey of Wyoming, agreed with the proposed action for Savage Peak, which is nonwilderness designation. One state agency, the Wyoming Game and Fish Department, favored wilderness designation for the Savage Peak WSA . The Office of the Governor did not specifically comment on the Savage Peak WSA, but indicated a decision would be made on the various recommendations when the total statewide picture became available.

Comments were received from three local governments--Dubois, Riverton, and Lander. They all opposed any wilderness designation for Miller Spring WSA (Sweetwater Rocks WSA).

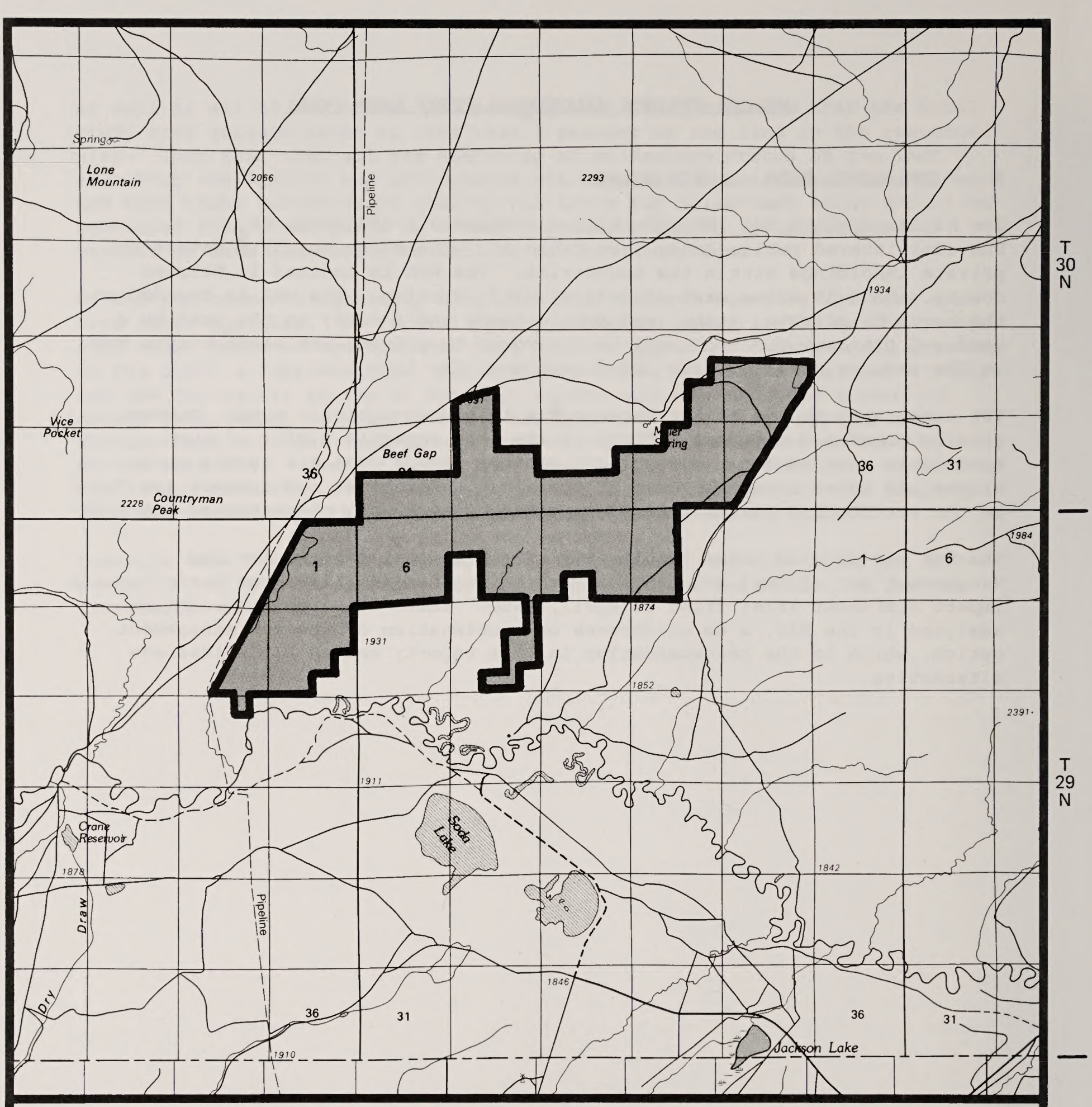
MILLER SPRINGS WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 6,429 acres.

The Miller Springs WSA (WY-030-123b) encompasses 6,429 acres of BLM-administered public lands (see Table 1). There are no split estate or private inholdings within the boundaries. The WSA is located in Natrona County, about 19 miles east of Jeffrey City, Wyoming. The WSA is bounded on the north by private, state, and public lands and a road; on the west by a road and pipeline right-of-way; on the south by private and state lands; and on the east by private lands and a road (see Map 1).

The topography in the Miller Springs WSA is almost entirely rough, broken granite domes and outcrops. Parts of the unit resemble a pile of hugh monolithic rock masses. Juniper and scatter limber pine are on the rocky slopes and aspen along the base of the rocks. Sagebrush and grasses are found on the surrounding plains. Large expanses of bare rock characterize the unit.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Lander Wilderness Environmental Impact Statement (EIS) filed in April, 1990. There were two alternatives analyzed in the EIS, a no wilderness or continuation of present management option, which is the recommendation in this report; and an all wilderness alternative.



NONE	Recommended for Wilderness	NONE	Split Estate
	Recommended for Nonwilderness	NONE	State
NONE	Land outside WSA Recommended for Wilderness	NONE	Private

0 1 2 3 4 5
MILES

Sweetwater Rocks / Miller Springs Proposal

WY–030–123B
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area	
Within Wilderness Study Area	
BLM (surface and subsurface)	6,429
Split Estate (BLM surface only)	0
Inholdings (state, private)	0
Total	6,429
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended For Wilderness	0
Within The Area Not Recommended For Wilderness	
BLM	6,429
Split Estate	0
Total BLM Land Not Recommended For Wilderness	6,429

2. **RECOMMENDATION AND RATIONALE** - **0 acres recommended for wilderness**
6,429 acres recommended for nonwilderness

The recommendation for this WSA is to release 6,429 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

Landownership was a major factor in determining the nonwilderness recommendation for the Miller Springs WSA because it is essentially surrounded by privately owned lands. Although physical and legal access exists to the WSA, the vehicle routes to the WSA cross on private lands.

In recommending nonwilderness for this WSA, it was felt that designation of the area as wilderness would result in increased trespass onto adjacent private lands. A slight (5%) increase in visitation is expected for this WSA under wilderness management because the WSA lies adjacent to a major travel route to the national parks in northwest Wyoming. Thousands of tourists will see the WSA and identify it as wilderness. In addition, the best access routes to the WSA originate from the highway and cross private land. Wilderness users would likely attempt to gain access to the WSA by crossing private land. This may be done surreptitiously (trespassing) or by requesting landowner permission.

In either case, the adjacent landowners would experience an increase in contacts with the public, unpleasant confrontation, lost time, litter, gates left open, and vandalism.

The effect of displacing vehicle-dependent recreation uses onto adjacent land also influenced the nonwilderness recommendation for this WSA. Certain uses within the Miller Springs WSA are vehicle-dependent; that is, visitors such as hunters and rockhounders depend on motorized vehicles to pursue their leisure activity within the WSA. If the area was designated wilderness, motorized vehicle use would be eliminated. A certain portion of these users will modify their activity to conform to the new restrictions. The majority, however, will simply move the nearby private land creating additional trespass problems for the adjacent landowners.

There are no resource conflicts in this WSA which a wilderness designation would help to resolve. There is low potential for mineral resource development and there is no commercial forest land within the WSA. The character of the area is not expected to change. The low level of activity that is presently occurring in the WSA is expected to continue for the foreseeable future, with no appreciable change to the area's natural environment. The wilderness values of this WSA would not be foregone or adversely affected as a result of a nonwilderness designation.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Miller Springs WSA is predominantly natural, with few human imprints. Those that exist are confined to two-track ways, one bladed section of road, and about three-tenths of a mile of fence. The ways and bladed road are on the east and northeast ends of the unit in open sagebrush areas. The WSA's granite rocks and exfoliated domes provide a natural setting, largely uninterrupted by man-made structures. The existing intrusions are not noticeable and have a minimal impact on the total area.

B. **Solitude:** Within the Miller Springs WSA, opportunities for solitude exist, but they are not exemplary since the area that provides topographic and vegetative screening to the visitor is small and would be somewhat confining. The pockets along the base do not provide the seclusion necessary to make the area exemplary. Encounters among visitors would be likely.

C. **Primitive and Unconfined Recreation:** The Miller Springs WSA offers outstanding opportunities for a primitive and unconfined type of recreation - rock climbing, hiking, camping, photography, nature study, sightseeing, backpacking, and hunting. Primitive campsites are available in a few places where grassy meadows, shelter, and concealment exist. The lack of well-distributed campsites might cause some visitor overlap and confinement of use. Hunting for antelope is outstanding on the flats because game is abundant and packing distances are short.

D. **Special Features:** The area is exceptionally scenic, with the reddish granite boulders, slabs, and exfoliated domes contrasting significantly with the greens of the wooded pockets. These large expanses of bare granite, which are not found elsewhere in central Wyoming, form a natural and highly scenic backdrop for the Sweetwater River Valley, an area that played an important role in the history of the exploration and early settlement of the west.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would add to the ecosystem diversity of the National Wilderness Preservation System. Three other BLM WSAs contain this ecosystem - Lankin Dome, Split Rock, and Savage Peak. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
		NATION WIDE		
Dry Domain/Wyoming Basin Province/Grama-Needlegrass Wheatgrass	0	0	3	26,259
		WYOMING		
	0	0	3	26,259

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of each population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, WY	27	4,080,891	32	459,230
Cheyenne, WY	27	1,950,377	11	85,116

C. **Balancing the geographic distribution of wilderness areas:** The Miller Springs WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Five existing areas are within three hours driving time of the WSA. These include the Washakie, Fitzpatrick, PoPo Agie, Bridger, and Cloud Peak Wilderness Areas and together they comprise 1,628,772 acres.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The WSA would be manageable as wilderness. No changes in existing uses would be anticipated over the long term, except for the increased use of private lands and resulting trespass problems discussed in the "Recommendation and Rationale" section if the WSA was recommended for wilderness. These social concerns include litter, vandalism, nuisance, and trespass.

Energy and Mineral Resource Values

The Miller Springs WSA has no potential for the occurrence of oil and gas resources (USGS 1983). The WSA is underlain by Precambrian granitic rocks that are flanked or covered by Tertiary age sedimentary rocks, all of which are not favorable for hydrocarbon generation and reservoir entrapment.

Locatable mineral resources of jade, uranium, thorium, pumicite, vermiculite, and zeolites occur in formations surrounding the WSA. The sedimentary rocks within the WSA are favorable hosts for jade, uranium, thorium, vermiculite, and zeolites. The pegmatites within the granitic core of the WSA have a low potential for uranium and thorium. The Moonstone and Split Rock Formations have a moderate to high potential and a low potential, respectively, for uranium and thorium occurrences. The WSA has a moderate to high potential for the occurrence of jade. The sedimentary rocks within and adjacent to the study area have a high favorability for the occurrence of zeolite minerals. The WSA has a moderate to high potential for the occurrence of vermiculite. Other minerals having a low to moderate favorability for occurrence include pumicite and sodium carbonate and sulfate deposits.

The Geological Survey of Wyoming map series MS-14 (1985) shows occurrences of gold, silver and other minerals in or near the Sweetwater Rocks WSA's.

There is presently no commercial production of any mineral resources from lands within the WSA. No lands are leased for oil and gas, and there are no mining claims located in the study area. Small unquantified quantities of jade have been mined from a claim in the past. Volumes of mineral resources known to occur within the study area are unknown.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Miller Springs WSA

Issue Topics	Proposed Action (No Wilderness)	Alternative 1 (All Wilderness)
Wilderness Values	ORV use would adversely affect solitude and primitive recreation on less than 10% (less than 600 acres) of the WSA. No significant impact.	Wilderness values protected on 6,429 acres.
Energy and Mineral Resources	All 6,429 acres open to mineral entry and leasing.	All 6,429 acres closed to mineral entry and leasing.
Local Ranching Operations	No increased conflict or impact is expected. No impact on ranching operation.	13% increase (from 40 to 45) in contacts between public and landowners would result in increased disruption of local ranching operations.

Local Social and Economic Considerations

In the event that visitor use did increase appreciably, additional problems, such as gates being left open or damage to roads during wet periods, might occur. In general terms, increased recreation use has the potential of becoming a nuisance for area ranchers. Recreationists seeking information or permission to cross private lands, littering, or damaging range improvements are an unwelcome burden on ranches. Large increases in such annoyances could be an obstacle to the smooth day-to-day operation of a ranch unit. Area ranchers fear this occurrence if the Miller Spring WSA was designated wilderness. The WSA is an "island" of public land largely surrounded by private and state lands. Private land adjoins the WSA boundaries and several residences or ranch headquarters are in the immediate area.

Summary of WSA - Specific Public Comments

Inventory: During the inventory phase, 7 comments were received on the Miller Springs WSA. Six supported inclusion of this unit as a wilderness study area and one was opposed. Those who favored wilderness study believed that a wilderness designation would add protection for the area's historic, wildlife, scenic, and recreational attributes. Those opposed expressed concerns over possible conflicts between livestock grazing and wilderness management, and the possible overuse of the area if designated wilderness.

Draft EIS: During formal public review of the draft EIS (released in November, 1985), a total of 716 comments, both oral and written, were received. Of those, four oral statements were received at public hearings held in Lander and Dubois, Wyoming. The remaining 712 comments were written responses to the draft EIS. Comments received during the draft EIS review generally either favored or opposed wilderness designation for the Miller Spring WSA and the other five WSAs that are addressed in the EIS.

The comments against wilderness generally voice the opinion that Wyoming already has too much wilderness in the national forests and national parks. They are concerned that federal lands are being locked up and multiple use will be lost by more wilderness designation. They feel that wilderness is too detrimental to the state and local economies because it reduces development in industries such as the timber and mineral-related businesses, and adversely affects such spin-off values as jobs and tax base. They also generally expressed the feeling that wilderness is restricted to only those young enough and economically able to enjoy the benefit and should not be set aside for such a small segment of the public. Further concerns were expressed that wilderness would draw more people to a particular area and increase the social problems involved such as trespass on private lands, litter, and vandalism.

Those comments in favor of wilderness protection generally voiced concern that these valuable lands and resources would not get deserved protection without wilderness designation. They expressed the opinion that Wyoming already has too much development such as a proliferation of roads, cleared forests, scenic degradation through mining and mineral leasing, and loss of wildlife and habitat to these developments. They feel that the alternative for all wilderness designation of the study area should be recommended for Miller

Spring as well as all of the other five study areas. They estimate that the total study area acreage makes up less than 1 percent of the land in the resource area. They feel that all are deserving of wilderness status as the last remaining vestiges of the environment which contain special resource values; and that these values which qualify the areas for wilderness study should be protected from development in order to preserve something unique for the benefit of this generation as well as future generations.

Of all the comments received, five were from federal agencies and five were from state agencies. No federal agency commented specifically on the Miller Spring WSA. However, the National Park Service did offer some general comments on the draft wilderness EIS. Two state agencies, the State Engineer's Office and the Geological Survey of Wyoming, agreed with the proposed action for Miller Spring, which is nonwilderness designation. One state agency, the Wyoming Game and Fish Department, favored wilderness designation for the Miller Spring WSA . The Office of the Governor did not specifically comment on the Miller Spring WSA, but indicated a decision would be made on the various recommendations when the total statewide picture became available.

Comments were received from three local governments--Dubois, Riverton, and Lander. They all opposed any wilderness designation for Miller Spring WSA (Sweetwater Rocks WSA).

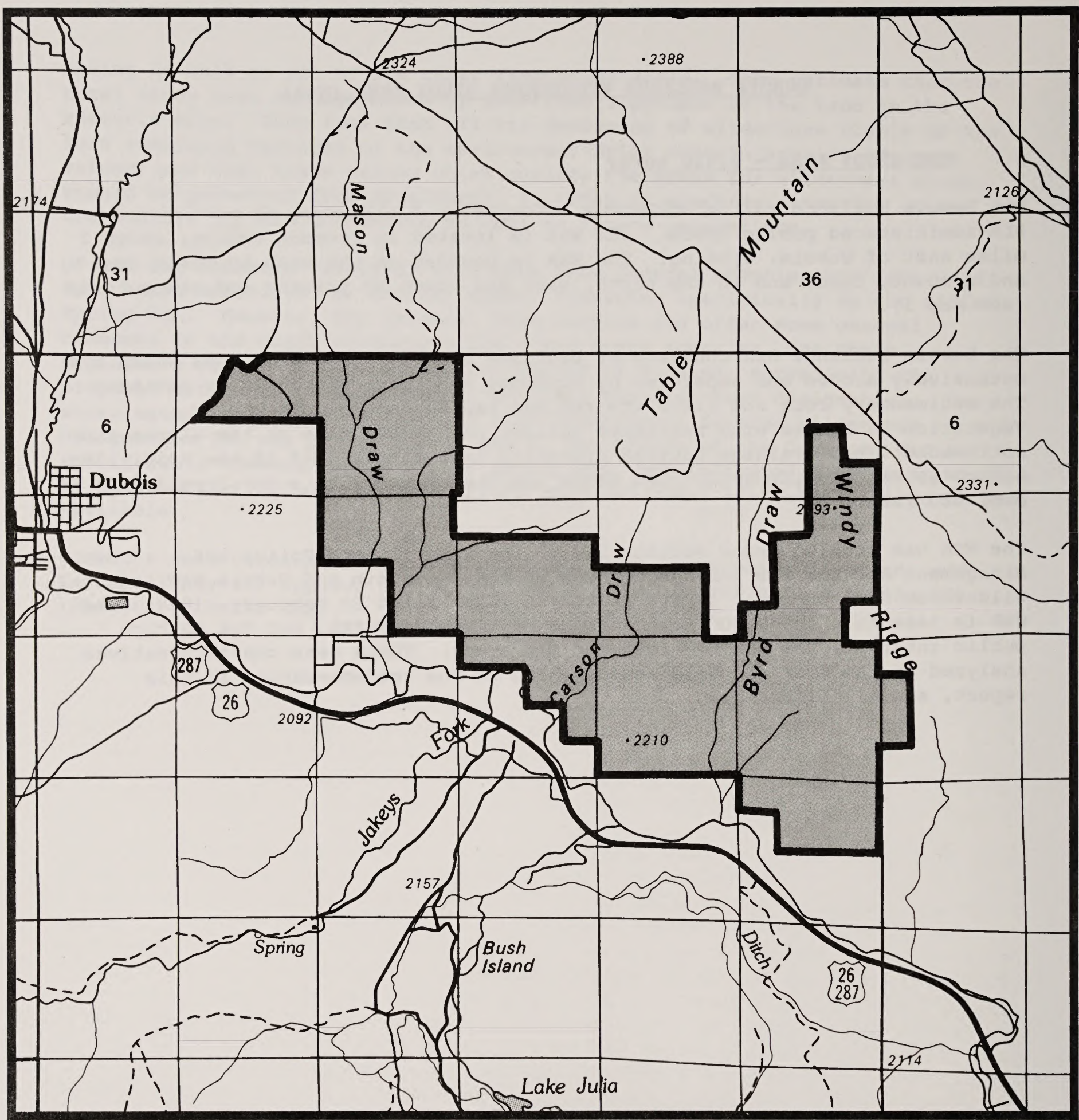
DUBOIS BADLANDS WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 4,520 acres

The Dubois Badlands WSA (WY-030-109) encompasses 4,520 acres of BLM-administered public lands. The WSA is located in Fremont County, about 2 miles east of Dubois, Wyoming. The WSA is bounded on the west by state land and a county road, and on the north, east and south by private and state lands (see Map 1).

The Dubois Badlands WSA consists of badlands and flat-topped benches which are extensively eroded and separated by numerous and intricate drainage patterns. The sedimentary rock and clays are red and tan banded color patterns. Vegetation is sparse with scattered juniper and limber pine on the slopes and cottonwood lined drainage bottoms primarily in the east half of the unit. The eroded spires and pinnacles rise above the Wind River with a total relief of over 400 feet.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act and was included in the Whiskey Mountain and Dubois Badlands Wilderness Environmental Impact Statement (EIS) filed in February, 1990. The WSA is less than the 5,000 acre minimum required by FLPMA, but due to high public interest, the WSA was retained for study. There were two alternatives analyzed in the EIS: No Wilderness, which is the recommendation in this report, and All Wilderness.



NONE	Recommended for Wilderness	NONE	Split Estate
	Recommended for Nonwilderness	NONE	State
NONE	Land outside WSA Recommended for Wilderness	NONE	Private

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MILES

Dubois Badlands Proposal

WY–030–109
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM surface and subsurface	4,520
Split Estate (BLM surface only)	0
Inholding (state, private)	0
Total	4,520
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
Total BLM Land Recommended for Wilderness	0
Within the Area Not Recommended for Wilderness	
BLM	4,520
Total BLM Land Not Recommended For Wilderness	4,520

2. **RECOMMENDATION AND RATIONALE** - **0 acres recommended for wilderness**
4,520 acres recommended for nonwilderness

The recommendation for this WSA is to release 4,520 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

In recommending this WSA for uses other than wilderness, the WSA's small size, configuration, and lack of exemplary wilderness values were primary considerations. Land uses adjacent to the WSA on the west and south were also contributing factors. The WSA is long and narrow, averaging about one mile in width, in an east-west configuration. Its drainages run north to south and recreation users generally follow the drainages. As a result, the WSA can be traversed in a relatively short period of time.

BLM's intensive inventory concluded that the area lacked outstanding opportunities for solitude because of the small size, linear configuration, limited vegetative screening and potential for visitor overlap. While small secluded spots could be found, the area does not provide extensive or consistent opportunities where a person could avoid sights, sounds and evidence of other people and activities.

BLM's inventory also concluded that the WSA's opportunities for primitive and unconfined recreation were less than exemplary. Opportunities for primitive recreation are limited in scope and lack any outstanding characteristics. The principal activity is day hiking with the associated scenic and wildlife viewing. Other activities occurring to a lesser extent are big game hunting and photography. The lack of good campsites and the lack of water in the area would not serve to draw recreationists for extended periods. Because of its linear configuration and drainage patterns, the WSA offers no extensive opportunities for primitive recreation.

The area's naturalness is adversely affected to some extent by adjacent land uses. This is most evident on the west and south sides of the WSA. The west side is primarily affected by a 40-acre sanitary landfill operation and concentrated off-road vehicle use on a state section. The south side is affected to some extent by adjacent housing subdivisions and highway traffic noise.

There are no resource conflicts in this WSA which a wilderness designation would help to resolve. The WSA is designated as an Area of Critical Environmental Concern (ACEC) and oil and gas leases are only allowed with a "No Surface Occupancy" stipulation. There is low potential for locatable mineral development. The character of the area is not expected to change. The low level of activity that is presently occuring in the WSA is expected to continue for the foreseeable future, with no change to the area's natural environment. The wilderness values of this WSA would not be foregone or adversely affected as a result of a nonwilderness designation.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Dubois Badlands WSA is essentially in a natural condition. The topography of the WSA consists of badlands--flat-topped hills which are extensively eroded and separated by intricate drainage patterns. Eroded pinnacles and spires rise as high as 400 feet above the Wind River.

Vegetation in the WSA varies with the elevation. The upper slopes have widely scattered limber pines, and the lower slopes contain sagebrush. The flat tops of most ridges have low-growing grass as the dominant plant life.

Intrusions include four fences, some very faint two-track ways, and a reclaimed sand and gravel sale site. The WSA appears to be affected by the forces of nature with the imprint of man's work substantially unnoticeable. However, because of the WSA's narrow configuration and its location adjacent to a sanitary landfill, the area's perception of naturalness is considered less than outstanding.

B. **Solitude:** The WSA has limited vegetative screening. Topographic screening would only be available in the eroded draws which dissect the WSA. While secluded spots could be found, opportunities for solitude in the WSA as a whole are not considered to be outstanding. Visitor overlap would occur if just a few people were in the unit at any one time.

C. **Primitive and Unconfined Recreation:** Opportunities for primitive and unconfined recreation in the Dubois Badlands WSA are limited and lack outstanding characteristics. Day hiking would be possible, but the WSA's size and lack of water limits its attraction for extended backpacking. While some primitive recreation activities are clearly possible in the WSA, the limited number and scope of such activities result in less than outstanding opportunities for primitive and unconfined recreation.

D. **Special Features:** The Dubois Badlands WSA contains several special features. The area's relatively unique geology and its scenery are major attractions.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would not significantly add to the ecosystem diversity of the National Wilderness Preservation System.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
		NATION WIDE		
Wyoming Basin Province/Wheatgrass, Needlegrass shrubsteppe	1	17,000	6	111,038
		WYOMING		
	1	17,000	5	91,700

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of one major population center. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	461,139

C. **Balancing the geographic distribution of wilderness areas:** The Dubois Badlands WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System because there is already a large amount of designated wilderness in northwest

Wyoming. Nine existing areas are within three hours driving time of the WSA. These include Winegar Hole, Jedidiah Smith, the Gros Ventre, Washakie, Popo Agie, Fitzpatrick, Teton Bridger, and Grand Teton Wilderness Areas.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The WSA is manageable as wilderness. However, management would be difficult. Off-road vehicle use in the WSA would be extremely difficult to control. This is particularly true in Mason Draw and the area to the west of Mason Draw. Intrusions by vehicles would be fairly common in the western portion of the WSA.

Energy and Mineral Resource Values

BLM estimates that the Dubois Badlands has moderate potential for the accumulation of oil and gas. This designation is based upon the geologic similarity to the oil-producing Dubois Field, shows of oil in the Phosphoria Formation in the nearby wells discussed earlier and possible oil and gas traps created by the Wind River Fault System.

No exploratory oil or gas wells have been drilled within the WSA but several have been drilled within 2 miles of the WSA boundary. All these wells were plugged and abandoned, but some wells had shows of oil in the Phosphoria formation.

The nearest producing oil field to the Dubois Badlands WSA is the Dubois Field, located approximately 6 miles northwest of the WSA. The field is geologically similar to the geology of the WSA. Oil is produced from the Phosphoria Formation in the Dubois Field.

No known locatable mineral resources occur within or adjacent to the Dubois Badlands WSA. The Wind River Formation is a well known source for uranium deposits within the Wind River Basin, but prospecting and exploration activities of the past have not made any significant discoveries in this part of the basin. The geologic environment, inferred geologic processes, and lack of known mineral occurrences within the WSA and land adjacent to it, do not indicate potential for the occurrence of locatable mineral resources.

BLM records of January 1989 show the lands in the WSA to be free of mining claims.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Dubois Badlands WSA

Issue Topics	Proposed Action (No Wilderness)	All Wilderness
Wilderness Values	No legislative protection of wilderness values on 4,520 acres (entire WSA); no management actions planned in the foreseeable future which would adversely affect wilderness values.	Wilderness values on 4,520 acres given long-term protection.
Bighorn Sheep	Wildlife values would be maintained as a result of protection from surface disturbing uses.	Wildlife values would be maintained as a result of protection from surface disturbing uses.
Energy and Minerals	Entire WSA (4,520) acres open to oil and gas leasing subject to no surface occupancy restriction. No exploration or development is expected. Entire WSA open to mineral location, but no activity is expected because of low potential for locatable mineral resources. No significant impact.	Entire WSA closed to mineral leasing and entry. No significant impact.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Public Comments.

Inventory: During the inventory phase, 27 comments were received on the Dubois Badlands WSA. Twenty-four supported inclusion of this unit as a wilderness study area and 3 were opposed. Most comments were general in nature, noting that the area deserved some sort of protection, but stopped short of stating that wilderness would provide that protection. None of the comments received were carried forward to the study phase to assist in identifying study issues or alternatives.

Draft EIS: During formal public review of the draft EIS (released in October, 1988), a total of 51 comments, both oral and written, were received. Of those, 20 oral statements were received at public hearings held in Riverton and Dubois, Wyoming in December, 1988. The remaining 31 comments were written responses to the draft EIS. Comments received during the draft EIS review generally either favored or opposed wilderness designation for the Dubois Badlands.

Of all the comments received, four were from federal agencies and seven were from state agencies. No objections were raised by the federal agencies. EPA's review did not identify any potential environmental impacts requiring substantive changes to the proposal. They also indicated that the draft EIS adequately set forth the impacts of the preferred alterative for the WSA. No state agencies expressed disagreement with the proposed action for Dubois Badlands. Three state agencies, the Wyoming Game and Fish Department, The Geological Survey of Wyoming, and the Wyoming Travel Commission favored nonwilderness for the Dubois Badlands WSA. The Office of the Governor also concurred with the proposed nonwilderness designation. He further indicated the rationale for maintaining these as non-wilderness appears sound.

Comments were received from one local government, The Town of Dubois. The town supports non-wilderness for the Dubois Badlands area. In addition, they would like to see more signing of the boundaries and an emphasis on enforcement of ORV designations.

The public has provided comments throughout the wilderness review process on this WSA. Opinions differ on whether the area should be designated as wilderness, some wanting that designation and others not wanting it. Most of the difference of opinion is based on whether or not the area meets the mandatory wilderness characteristics.

There is, however, general agreement that the area's natural, scenic and wildlife values should be protected. There was also general agreement that effective management of the ORV use is necessary to provide that protection.

WHISKEY MOUNTAIN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 487 acres

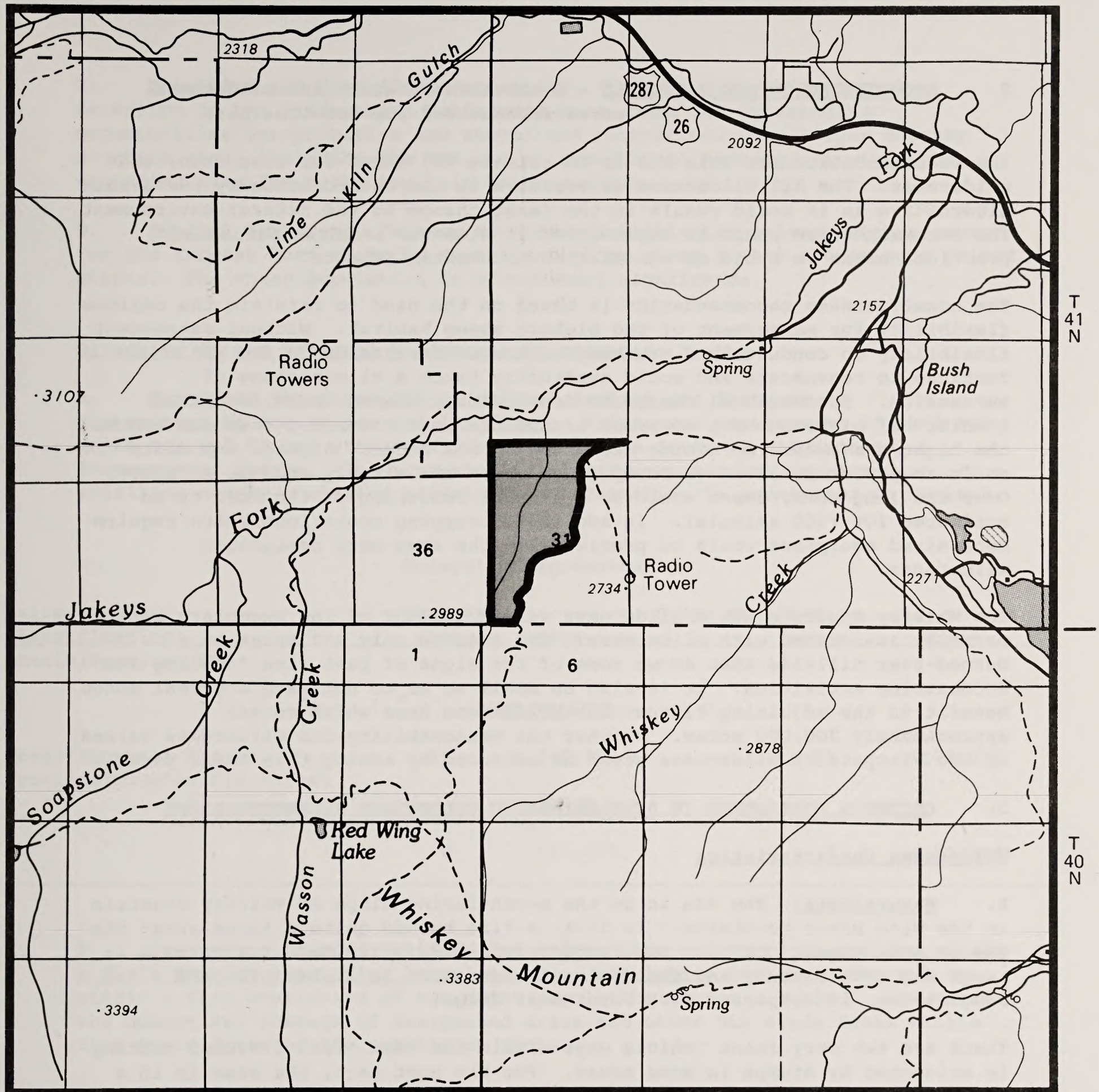
The Whiskey Mountain WSA (WY-030-110) encompasses 487 acres of BLM-administered public lands. The WSA is located in Fremont County, about 5 miles south of Dubois, Wyoming. The WSA is bounded on the east by the Ross Lake Trail, Fitzpatrick Wilderness Area on the south and west, and private lands to the north (see Map 1).

The WSA is on the north-facing slope of Whiskey Mountain in the Wind River Mountains. A fire in 1931 burned quite a large area, much larger than the WSA. The WSA is only a small part of a larger burnt over hillside. As a result, the WSA is not distinguishable from the remainder of the north slope of the Wind River Mountains. The terrain is rough and mountainous, and the dominant vegetation is limber pine and Douglas-fir, interspersed with burnt-over snags.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Whiskey Mountain and Dubois Badlands Wilderness Environmental Impact Statement (EIS) filed in February, 1990. The WSA is less than the 5,000 acre minimum required by FLPMA but it borders an established wilderness area administered by the U. S. Forest Service which is the reason it became a study area. There were two alternatives analyzed in the EIS; No Wilderness, which is the recommendation in this report, and All Wilderness.

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	487
Split Estate (BLM surface only)	0
Inholding (state, private)	0
Total	487
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
Total BLM Land Recommended for Wilderness	0
Within the Area Not Recommended For Wilderness BLM	
BLM	487
Total BLM Land Not Recommended For Wilderness	487



NONE	Recommended for Wilderness	NONE	Split Estate
	Recommended for Nonwilderness	NONE	State
NONE	Land outside WSA Recommended for Wilderness	NONE	Private

Whiskey Mountain Proposal

0 1 2 3 4
MILES

WY–030–110
June, 1990

2. **RECOMMENDATION AND RATIONALE** - **0 acres recommended for wilderness**
487 acres recommended for nonwilderness

The recommendation for this WSA is to release 487 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

The nonwilderness recommendation is based on the need to maintain the maximum flexibility for management of the bighorn sheep habitat. Without management flexibility to conduct land treatments, the timber stands in the WSA would continue to regenerate and would eventually reach a climax stage of succession. Successional change to dense timber stands would inhibit traditional bighorn sheep movement around the west end and across the WSA to the bighorn's preferred winter-use sites on BLM Ridge. Bighorn use would shift to preferred sites on Sheep Ridge which are already used to capacity. Over the long term, there would be a gradual reduction of the herd by an estimated 10% (100 animals). In addition, trapping operations which require mechanized equipment would be precluded if the area were designated wilderness.

The Whiskey Mountain WSA's wilderness values are not of the exemplary nature normally associated with wilderness. The area is only 487 acres on a burned-over hillside that shows some of the signs of past fire fighting and woodcutting activities. It is also so small so as to not have any real added benefit to the adjoining Fitzpatrick Wilderness Area which covers approximately 200,000 acres. Neither the manageability nor wilderness values of the Fitzpatrick Wilderness would be enhanced by adding this small parcel.

3. **CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS**

Wilderness Characteristics

A. **Naturalness:** The WSA is on the north-facing slope of Whiskey Mountain in the Wind River Mountains. In 1931, a fire burned quite a large area; the WSA is only a small part of the larger burnt-over hillside. The terrain is rough and mountainous, and the dominant vegetation is limber pine and Douglas-fir, interspersed with burnt-over snags.

There are two very faint vehicle ways within the WSA. Past firewood cutting is evidenced by stumps in some areas. For the most part, the area is in a natural condition with the works of human activity substantially unnoticeable.

B. **Solitude:** Solitude in the WSA is possible due to its topographic and vegetative screening, but because of its small size, the opportunities for solitude are less than outstanding. However, in conjunction with the Fitzpatrick Wilderness Area, opportunities for solitude could be considered outstanding.

C. **Primitive and Unconfined Recreation:** The WSA makes a contiguous extension of the Fitzpatrick Wilderness Area which has outstanding opportunities for primitive and unconfined recreation. The larger Whiskey Mountain area, including the WSA, is an exceptional hunting, viewing, and wintering area for Rocky Mountain bighorn sheep.

D. **Special Features:** Whiskey Mountain is within the primary winter range for the largest herd of Rocky Mountain bighorn sheep in the coterminous United States. The sheep population is of national signficance.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would not add to the ecosystem diversity of the National Wilderness Preservation System. The ecosystem is already represented by 11 areas totalling nearly 4 million acres. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
Domain/Province/PNV	areas	acres	areas	acres
		NATION WIDE		
Rocky Mountain Forest Province/Douglas Fir Forest	11	1,349,971	21	198,893
		WYOMING		
	9	851,433	7	72,146

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of one major population center. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	465,172

C. **Balancing the geographic distribution of wilderness areas:** The Whiskey Mountain WSA would not significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System because there is already a large amount of designated wilderness in northwest Wyoming. Nine existing areas are within three hours driving time of the WSA. These include Winegar Hole, Jedidiah Smith, the Gros Ventre, Washakie, Popo Agie, Fitzpatrick, Teton Bridger, and Grand Teton Wilderness Areas.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The WSA would be manageable as wilderness. No changes in existing uses would be anticipated over the long term. The Whiskey Mountain WSA represents an extension of the Fitzpatrick Wilderness administered by the U. S. Forest Service.

Energy and Mineral Resource Values

The Phosphoria formation, Tensleep sandstone, and Madison limestone are exposed in or underlie the WSA and are known oil and gas producers in fields throughout the Wind River Basin. However, the geologic structure and geologic processes in and adjacent to the WSA are not suitable for the entrapment of hydrocarbons. The WSA, therefore has low potential for the occurrence of oil and gas. The lands within the WSA were closed to mineral leasing in 1970 in order to protect bighorn sheep habitat.

The WSA is also closed to locateable mineral entry, location, exploration, and development. No known mineralized zones exist within or immediately adjacent to the WSA. The geologic environment, inferred geologic processes, and lack of mineral occurrences within or immediately adjacent to the WSA lands, indicate a low potential for the occurrence of locatable mineral resources.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the two alternatives considered including designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
Whiskey Mountain WSA

Issue Topics	Proposed Action (No Wilderness)	All Wilderness
Wilderness Values	No legislative protection of wilderness values on 487 acres (entire WSA). Tree cutting and burning would have a short-term impact on naturalness on 60% of the WSA and for solitude the entire WSA, but there would be no long term effect.	Wilderness values on 487 acres given long-term protection.
Bighorn Sheep Management	Conditions for bighorn sheep would improve over the short term and be maintained over the long term. Herd numbers maintained at 1,000 bighorn sheep.	Conditions for bighorn sheep would deteriorate over the long term resulting in a loss of 10% of the Whiskey Mountain herd (100 animals).
Energy and Minerals	Entire WSA (487) acres would continue to be closed to mineral leasing and entry. No significant impact.	Entire WSA (487 acres) would continue to be closed to mineral leasing and entry. No significant impact.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Public Comments

Inventory: During the inventory phase, nine comments were received on the Whiskey Mountain WSA. Four supported inclusion of this unit as a wilderness study area and five were opposed. All of the comments regarding this unit were general in nature and none were carried forward to the study phase to assist in identifying study issues or alternatives.

Draft EIS: During formal public review of the draft EIS (released in October, 1988), a total of 51 comments, both oral and written, were received. Of those, 20 oral statements were received at public hearings held in Riverton and Dubois, Wyoming in December, 1988. The remaining 31 comments were written responses to the draft EIS. Comments received during the draft EIS review generally favored nonwilderness designation for the Whiskey Mountain WSA.

Of all the comments received, four were from federal agencies and seven were from state agencies. No objections were raised by the federal agencies. EPA's review did not identify any potential environmental impacts requiring substantive changes to the proposal. They also indicated that the draft EIS adequately set forth the impacts of the preferred alterative for the WSA. No state agencies expressed disagreement with the proposed action for the Whiskey Mountain WSA, which is nonwilderness designation. Three state agencies, the Wyoming Game and Fish Department, the Geological Survey of Wyoming, and the Wyoming Travel Commission favored nonwilderness for the Whiskey Mountain WSA. The Office of the Governor also concurred with the proposed nonwilderness designation. He further indicated that the rationale for maintaining the WSA as nonwilderness appears sound.

Comments were received from one local government, the Town of Dubois. The town supports non-wilderness for the Whiskey Mountain WSA. They would like to see no ORV use and feel the area should be managed for protection of the Bighorn Sheep.

The public has provided comments throughout the wilderness review process on this WSA. The predominant feeling is that the area should be given protection but not designated as wilderness because the designation would restrict flexibility needed to manage the bighorn sheep habitat including habitat improvement projects such as land treatments and sheep trapping.

ADOBETOWN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 85,710 acres

The Adobe Town WSA (WY-030-401 and WY-040-408) consists of a single study area administratively identified with two WSA numbers because the area is separated by the boundary between the Rawlins and Rock Springs Districts. The Adobe Town WSA includes 82,350 acres of BLM lands, 3,360 acres of split estate lands and 1,280 acres of state land (see Table 1). The WSA is located in southeastern Sweetwater County, 25 miles south of Wamsutter, Wyoming. The WSA is bounded on the north by the checkerboard land pattern and the Manual Gap road, on the west by the Adobe Town Rim road, on the south by the Shell Creek road, and on the east by the Willow Creek road (see Map 1).

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Adobe Town-Ferris Mountains Wilderness Environmental Impact Statement filed in January 1988. There were four alternatives analyzed in the EIS including All Wilderness, No Wilderness, Partial Wilderness which is the recommendation of this report that would designate 10,920 acres as wilderness and release 74,790 acres for uses other than wilderness, and another partial wilderness in which 16,280 acres would be designated as wilderness and 69,430 acres would be released for uses other than wilderness.

The 10,920 acres recommended for wilderness includes most of the core of the Washakie Basin, an ancient inland sea. This portion of the WSA is a very colorful and rugged desert badland area virtually untouched by human activity. The maze of badlands formations, mesas, and buttes combine with brilliantly colored rock strata to create spectacular canyonland scenery. Skull Creek Rim, in the core of the area recommended for wilderness, contains some of the most unique and extensive badlands formations in Wyoming.

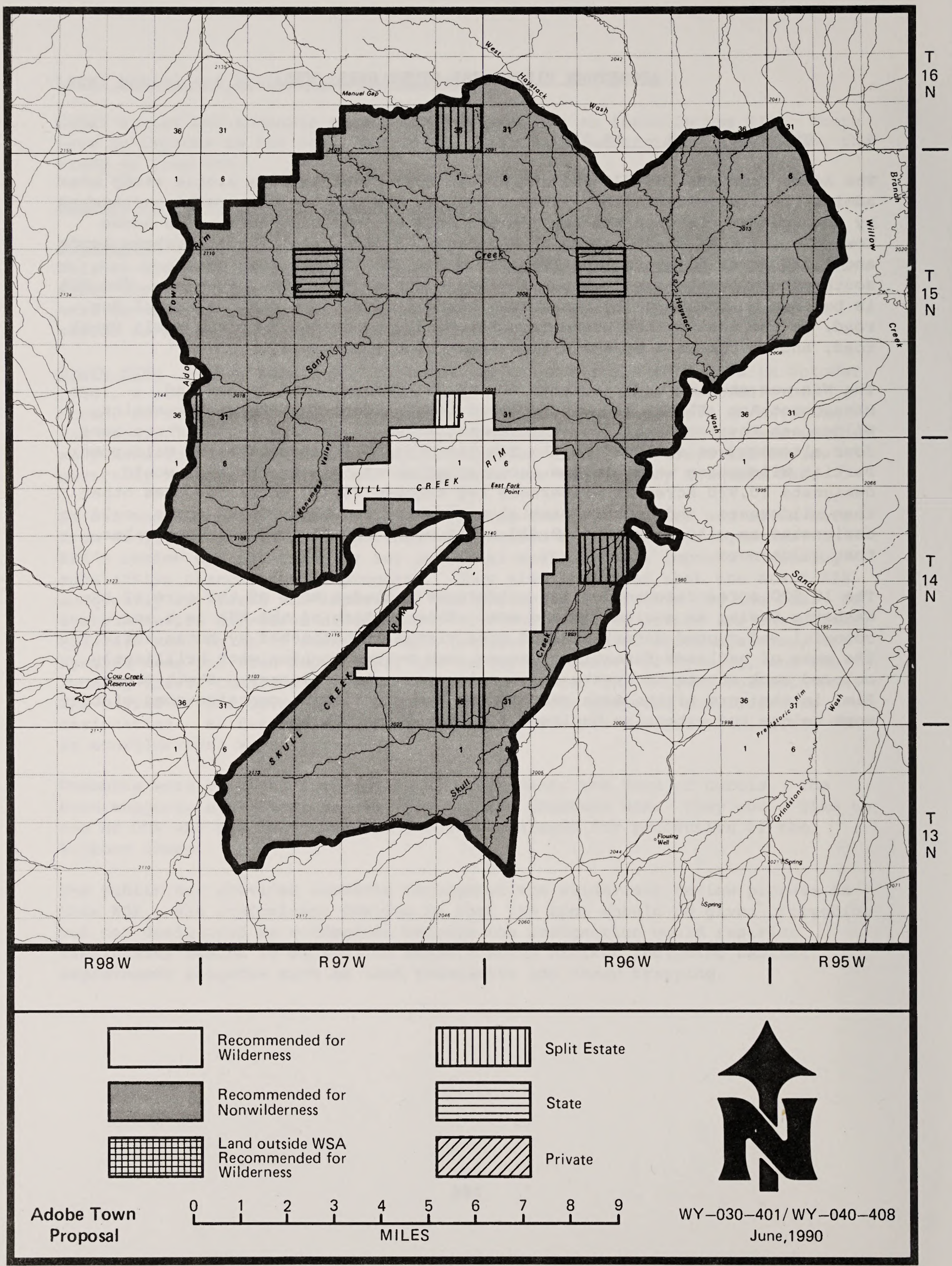

T 16 N
T 15 N
T 14 N
T 13 N
R98W
R97W
R96W
R95W
West Haystack Wash
Manuel Gap
Adobe Town Rim
Sand Creek
Haystack Wash
Willow Branch
Creek
Wash
Henumen Valley
SKULL CREEK RIM
East Fork Point
Cow Creek Reservoir
SKULL CREEK
Skull Creek
Sand Wash
Prehistoric Rim
Grindstone
Flowing Well
Spring
Recommended for Wilderness
Recommended for Nonwilderness
Land outside WSA Recommended for Wilderness
Split Estate
State
Private
0 1 2 3 4 5 6 7 8 9
MILES
Adobe Town Proposal
WY–030–401/WY–040–408
June,1990

TABLE 1 - Land Status & Acreage Summary of the Study Area	
Within Wilderness Study Area	
BLM (surface and subsurface)	82,350
Split-estate (BLM surface only)	3,360
Inholdings (State, private)	1,280
Total	86,990
Within the recommended wilderness boundary	
BLM (within WSA)	10,520
BLM (outside WSA)	0
Split Estate (within WSA)	400
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	10,920
Inholdings (State, private)	0
Within the Area Not Recommended for Wilderness	
BLM	71,830
Split Estate	2,960
Total BLM Land Not Recommended for Wilderness	74,790
Inholdings (State, Private)	1,280

2. **RECOMMENDATION AND RATIONALE--10,920 acres recommended for wilderness**
74,790 acres recommended for nonwilderness

The recommendation for this WSA is to designate 10,920 acres (10,520 acres Federal and 400 acres split estate) as wilderness and release 74,790 acres for uses other than wilderness (Map 1). The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts. Appendix 1 lists all inholdings and split estate tracts and provides additional information on acquisition of inholdings and split estate minerals.

In recommending the 10,920-acre portion of the WSA for wilderness, the exemplary quality of the area's wilderness values and the opportunity to add an ecosystem not presently part of the wilderness system were key considerations. Because of the lack of man-made intrusions in the portion of the WSA recommended for wilderness designation, its naturalness is considered exceptional. The Skull Creek Rim area contains virtually no evidence of modern man. The wilderness inventory judged this portion of the WSA to be natural in appearance.

Designation of this portion of the WSA as wilderness would add an ecosystem not currently represented in the wilderness system. The entire 10,920 acres recommended for wilderness lie within the Wyoming Basin/Saltbush-greasewood ecosystem. No designated wilderness areas contain this ecosystem.

Because the recommended portion of the WSA was part of an inland sea, it is rich in paleontological and archaeological resources. The Adobe Town area is known as one of the three most valuable sites in North America for certain types of mammalian fossils. Archaeological resources within the area are estimated to represent continual human occupation for the past 12,000 years.

A wilderness designation would not conflict with other resources uses in the 10,920 acres recommended for such a designation. Grazing of the area will be allowed to continue. The WSA as a whole has a high potential for natural gas production. It is estimated that the reserves within the WSA are in excess of one trillion cubic feet. There are no oil and gas leases or mining claims within the 10,920 acres recommended for wilderness. The recommendation for this WSA is projected to result in the recovery of approximately 80% of the total natural gas reserves within the WSA as compared to an 85% recovery rate under the no wilderness alternative. Thus, conflicts with wilderness management would be minimal.

The remaining 74,790 acres were recommended for nonwilderness because of the area's high potential for the development of natural gas. The topography and drainage patterns of this portion of the WSA are not naturally limiting to development. Given the WSA's high potential for natural gas, it is likely that development would indeed occur here, with a potential for wells located throughout the nonwilderness portion. Currently there is no oil and gas activity in the area. Were any exploration or development to occur, the activities would be managed to minimize environmental impacts. Construction activities would be limited to specific times of the year to protect wintering wildlife and nesting raptors. Erosion and impacts to water quality would be minimized by limiting facilities to areas away from live water and slopes in excess of 25%.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. Naturalness: The Adobe Town WSA is predominantly natural, with few human imprints. Skull Creek Rim, in the core of the recommended area, is a very colorful and rugged desert badland area, which consists of a series of highly eroded drainages and colorful badland rims. To the north of Skull Creek Rim is Monument Valley and Adobe Town Rim. These areas also contain badlands and formations similar to Skull Creek, but are more dispersed. To the east (the majority of the nonsuitable area) is a broad, relatively undisturbed plain that is covered with stabilized sand dunes and alluvium. The few man-made intrusions in the WSA are minor and consist of activity associated with past oil and gas explorations. There are several old livestock watering reservoirs, and two abandoned wild horse traps. These intrusions are not noticeable and have a minimal impact on the total area.

B. **Solitude:** The Adobe Town WSA contains outstanding opportunities for solitude. The WSA's rugged badland rims and numerous canyons provide ample opportunities to avoid the sights and sounds of other visitors. The open desert plain, with its expanses of sagebrush and open scenic vistas, projects a feeling of vastness and solitude. Encounters among visitors would be more likely in this portion of the WSA, however, because of the relatively flat terrain.

C. **Primitive and Unconfined Recreation:** The Adobe Town WSA, with its large size and varied topography, contains outstanding opportunities for primitive and unconfined recreation. The majority of the WSA provides opportunities for unconfined freedom of movement due to the open rolling hills and numerous drainages. Opportunities for hiking, backpacking, sightseeing, horseback riding, hunting, nature study, scientific study, and photography are available to the visitor. The outstanding scenic quality of this WSA enhances the recreational values.

D. **Special Features:** The WSA is nationally known for the educational and scientific study of paleontological resources. Fossil remains of mammals are numerous and widely distributed throughout the area. Two notable mammalian fossils found in the area are the Uintathere and the Titanothere. The Uintathere was a large mammal about the size and configuration of an African rhinoceros. The species of Titanothere found in the WSA was a tapir-like mammal, about 40 inches in height. This area has been identified as one of the premier sites in North America for paleontological resources.

Significant archaeological resources are found throughout the WSA, representing continuous occupation by man from Paleo Indian through late Prehistoric periods, that is, for the past 12,000 years. The cultural site density of the WSA is estimated to be 30 surface sites per square mile, which is unusually high.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of the 10,920 acres of the WSA recommended in this report would add an ecosystem not presently represented in the National Wilderness Preservation System. There are only four other BLM areas in the state under study with this ecosystem, and the example in this WSA is judged to be the most natural of the areas studied in this state. The remaining 74,790 acres are within an ecosystem already represented in the wilderness system in one area in Wyoming. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
	NATION WIDE			
Dry Domain/ Wyoming Basin Province/ Saltbush-greasewood	0	0	4	94,549
	WYOMING			
	0	0	4	94,549
	NATION WIDE			
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,026	16	230,031
	WYOMING			
	1	67,026	16	230,031

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of one major population center. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population center.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Center	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, WY	27	4,080,891	32	379,949

C. **Balancing the geographic distribution of wilderness areas:** The Adobe Town WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Although there are several designated wilderness areas in south central Wyoming and north central

Colorado (78,870 acres in south central Wyoming and 312,483 acres in north central Colorado, totaling 391,353 acres in 12 units), there are no wilderness areas in southwest Wyoming or northwest Colorado. Designation of the Adobe Town WSA as wilderness would help fill this void.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The portion of the WSA preliminarily found suitable for wilderness is manageable as wilderness.

The portion of the WSA not recommended for wilderness would be manageable as wilderness. however, there are about 5,800 acres of pre-FLPMA leases within this portion of the WSA and the terrain and drainages do not necessarily limit development. The lease holdings are grouped in three geographic areas: (1) the southwest portion of the WSA along the southern part of Monument Valley; (2) the northwest part around Adobe Town Rim; and (3) scattered parcels in the northeast part of the WSA. Given the high potential for natural gas in the WSA, it is quite probable that development would occur, with wells distributed throughout this portion of the WSA. Assuming a relatively even distribution of these wells throughout the nonwilderness portion of the WSA, the sights and sounds of the machinery, access roads, and vehicles would necessarily threaten wilderness values over the long term. This would make wilderness management extremely difficult.

Energy and Mineral Resource Values

The U.S. Geological Survey and U.S. Bureau of Mines prepared a mineral assessment for that portion of the Adobe Town WSA that is recommended for wilderness designation (U.S. Geological Survey Bulletin 1757-H, 1990). The results of that report provide the basis for the following information.

The potential for accumulations of natural gas in the Adobe Town WSA is considered to be high. It is estimated that the Adobe Town WSA is underlain with approximately 1-2 trillion cubic feet of natural gas.

No drilling has been done in the 10,920 acres recommended for wilderness, but 12 holes have been drilled in nearby areas. Three of these wells produced natural gas, ranging from 1,200 to 3,700 MCF (million cubic feet) of gas per day. All three of these wells were relatively deep (more than 10,000 feet). There are no wells producing gas within the entire WSA at this time.

The status of the oil and gas leases in the Adobe Town WSA has changed significantly since the final EIS was completed (see Map 7, Adobe Town-Ferris Mountains Final EIS) and from that shown in the U.S.G.S./B.M. mineral report. The current status is reflected on Map 2. At the time that the EIS was written, there were two oil and gas units within the Adobe Town WSA, with a unit being a contiguous group of leases designed to drain the oil and gas reserves from a known reservoir in the most efficient manner.

Once a well is drilled and proves to have commercial quantities of oil or gas, a "participating area" (PA) is set up around the well. The PA represents the area proven to be capable of producing in commercial quantities. The units automatically contract to the PA five years after the PA is established if diligent drilling within the unit does not occur. In the case of the Adobe Town WSA, the units contracted to the PAs and the pre-FLPMA leases being held by the units thus expired.

In addition, several other oil and gas leases have expired. There are now 5,800 acres of pre-FLPMA leases within the WSA being held by production or as participating areas. The remainder is either unleased or covered by post-FLPMA leases.

There are no mining claims in the Adobe Town WSA. The area was withdrawn from mining location by Executive Order 5327, April 15, 1930. The entire study area has low potential for undiscovered uranium, coal, zeolites, oil shale, and metallic minerals.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
COMPARATIVE ANALYSIS OF IMPACTS
ADOBE TOWN WSA

Issue Topics	Proposed Action (Partial Wilderness)	No Wilderness	Partial Wilderness-2	All Wilderness
Wilderness Values	Naturalness and solitude lost on 75,110 acres in long term. Wilderness values retained on 10,600 acres.	Naturalness and solitude lost on 85,720 acres in long term. No legal protection of wilderness values on 85,710 acres.	Naturalness and solitude lost on 70,710 acres in long term; includes 1,280 acres in partial wilderness boundary. Wilderness values retained on 15,000 acres.	Naturalness and solitude lost on 39,300 acres in long term due to development of of pre-FLPMA leases. Wilderness values retained on 46,410 acres.
Energy and Mineral Resources	Eighty percent of gas recovered (80 billion cubic feet); 74,790 acres open to oil and gas leasing; 10,920 acres closed to oil and gas leasing.	Eighty-five percent of gas recovered (95 billion cubic feet; 85,710 acres open to oil and gas leasing.	Seventy-two percent of gas recovered (72 billion cubic feet); 69,430 acres of nonwilderness open to oil and gas leasing. 1,280 acres of wilderness open to oil and gas because of existing pre-FLPMA leases; 15,000 acres closed to oil and gas leasing.	Thirty percent of gas recovered (35 billion cubic feet). 39,300 acres open to oil and gas development because of existing pre-FLPMA leases; 46,410 acres closed to oil and gas leasing.
ORV Use	Twenty-five visitor-days annually displaced from 10,920 acres. Insignificant impacts due to better opportunities on nearby public land. ORV use limited to 490 miles of designated roads and trails on 74,790 acres.	Minor increase in vehicle accessibility; no significant impacts. ORV use limited to 520 miles of designated roads and trails on 85,710 acres.	fifty visitor-days annually displaced from 16,280 acres. Insignificant impacts due to better opportunities on nearby public land. ORV use limited to 440 miles of designated roads and trails on 69,430 acres.	Two hundred visitor days annually displaced from 85,710 acres; insignificant impact due to better opportunities on nearby public land.
Cultural Resources	Cultural resource surveys on 8,550 acres; 400 sites evaluated but destroyed. Sites on 10,600 acres would remain undisturbed.	Cultural resource surveys on 9,075 acres; 425 sites evaluated but destroyed.	Cultural resource surveys on 7,770 acres; 370 sites evaluated but destroyed. Sites on 16,250 acres would remain undisturbed.	Cultural resource surveys on 3,750 acres; 175 sites evaluated but destroyed. Sites on 82,000 acres would remain undisturbed.
Paleontological Resources	Adverse impacts to paleontological resources on 8,550 acres due to oil and gas activities. Beneficial impacts on 10,920 acres because sites would remain undisturbed.	Adverse impacts to paleontological resources on 9,075 acres due to oil and gas activities.	Adverse impacts to paleontological resources on 7,770 acres due to oil and gas activities. Beneficial impacts on 15,000 acres because sites would remain undisturbed.	Adverse impacts to paleontological resources on 3,750 acres due to oil and gas activities on pre-FLPMA leases. Beneficial impacts on 46,410 acres of post-FLPMA and unleased lands because sites would remain undisturbed.
Livestock Grazing	No impacts.	No impacts.	No impacts.	Increased difficulty in managing domestic sheep on winter range; may result in voluntary nonuse of of 3,893 AUMs.

TABLE 4 Continued
COMPARATIVE ANALYSIS OF IMPACTS
ADOBE TOWN WSA

Issue Topics	Proposed Action (Partial Wilderness)	No Wilderness	Partial Wilderness-2	All Wilderness
Wildlife	No impacts to antelope. Mule deer displaced off of 40,000 to 74,790 acres, but can be easily accommodated in other areas.	No impacts to antelope. Mule deer displaced off of 85,710 acres, but can be easily accommodated in other areas.	No impacts to antelope. Mule deer displaced off of 70,710 acres, but can be easily accommodated in other areas.	No impacts to antelope. Virtually no displacement of mule deer.
Raptors	Out of a total of 22 ferruginous hawk nests, six to eight would produce fledglings.	Out of a total of 22 ferruginous hawk nests, six to seven would produce fledglings.	Out of a total of 22 ferruginous hawk nests, eight to ten would produce fledglings.	Out of a total of 22 ferruginous hawk nests, 12 to 13 would produce fledglings.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Comments

Inventory: During the inventory phase, 37 comments were received on the Adobe Town WSA. Twenty-seven supported inclusion of the unit as a wilderness study area, while ten opposed the unit's inclusion. Those who favored wilderness believed that the WSA had all the prerequisite wilderness characteristics necessary to qualify for wilderness study. Those opposed cited a desire to see the area managed for uses other than wilderness, the area's high potential for natural gas, and retention of motorized access.

Draft EIS: During formal public review of the draft EIS, a total of 42 comments, both written and oral, were received. Of those, three oral statements were received at a public hearing held in Rawlins, Wyoming; the remaining 39 comments were written responses to the draft EIS. In general, 24 comments favored wilderness designation for at least some of the WSA, and 13 favored no wilderness. Five comments addressed the relative merits of the EIS, but took no formal position on wilderness designation or nondesignation.

Support for wilderness designation stemmed from a desire to protect some of the public lands from environmental destruction caused by the commercial exploitation of oil and gas. Opposition to wilderness designation was based on mineral potential and the desire to manage the area for uses other than wilderness. Of all the comments received, 4 were from federal agencies and 8 were from state agencies. No comments were received from local agencies. Of the federal agencies, the Environmental Protection Agency indicated environmental reservations regarding the DEIS Proposed Action and suggested that the Partial Wilderness alternative (now called Partial-2) be given further consideration. The National Park Service and the Fish and Wildlife Service favored the all wilderness alternative. The Bureau of Mines preferred the No Action alternative. Of the state agencies, the Geological Survey of Wyoming, the Oil and Gas Commission, and the State Engineer's Office supported the DEIS proposed action of No Wilderness. The Department of Agriculture favored the No Action alternative. The Wyoming Recreation Commission supported the DEIS proposed action as long as protective measures for cultural resources were implemented prior to any project authorization. The Game and Fish Department supported the 16,280-acre Partial Wilderness Alternative as described in the draft EIS, and the Department of Environmental Quality (Water Quality Division) had no comment. In addition, the Governor's Office had no overall position regarding wilderness designation, but were opposed to inclusion of state-owned land or mineral estates in BLM WSAs.

APPENDIX 1
ESTIMATED COST OF ACQUISITION OF NON-FEDERAL HOLDINGS
WITHIN AREAS RECOMMENDED FOR DESIGNATION [1]

Legal Description (Prior to any Subdivisional)	Total Acreage	Number of Owners (If Parcel has been Subdivided)	Type of Ownership by Estate (Federal, State, Private, other)		Presently Proposed for Acquisition (Yes, No)	Preferred Method of Acquisition (Purchase, Exchange, other)	Estimated Cost of Acquisition	
			Surface Estate	Subsurface Estate			Land Costs	Processing Costs
T.15N.,R.97W Sec. 36, E1/2,SW1/4	400		Federal	State	Yes	Exchange		

[1] The standard costs in this appendix in no way represent a formal appraised value of the land in general estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

FERRIS MOUNTAINS WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 22,245 acres

The Ferris Mountains WSA (WY-030-407) includes 22,245 acres of BLM lands and one privately owned inholding totalling 160 acres (see Table 1). The WSA is located in northwestern Carbon County, about 40 miles north of Rawlins, Wyoming. The Ferris Mountains are a small mountain range, rising abruptly from the gently rolling plains that surround the WSA. The WSA is bounded on the north by the rolling plains of the Sweetwater Valley, on the south by the level expanses of Separation Flat, on the west by state land and Whiskey Gap, and on the east by Miners Canyon (see Map 1).

The Ferris Mountains WSA is extremely steep and rugged, providing unusual and spectacular scenery. Along the southern flank, a formation of limestone outcrops forms a prominent white band twelve miles long which is visible for up to 50 miles. Ferris Peak is the highest point in the Great Divide Basin at 10,037 feet and rises some 3,000 feet from the valley floor. Vegetation consists of coniferous trees, shrubby plants, grasses and forbs. The WSA also contains grassy meadows and riparian areas.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Final Adobe Town-Ferris Mountains Wilderness Environmental Impact Statement filed in January 1988. There were three alternatives analyzed in the EIS including All Wilderness, which is the recommendation in this report, No Wilderness, and a second All Wilderness alternative which also included the private inholding and adjacent private and state lands (totalling 1,800 acres) in the designated wilderness.

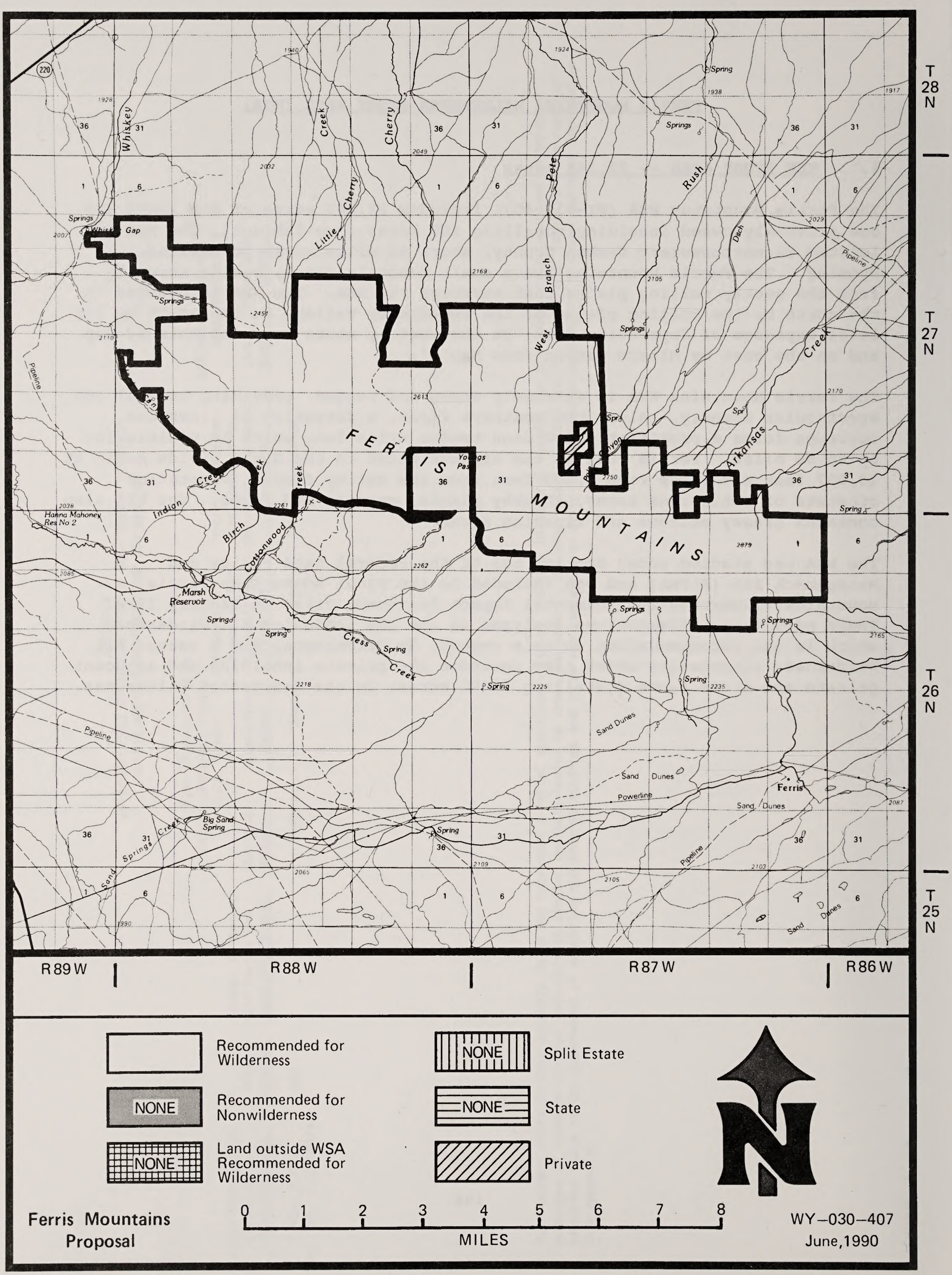

T 28 N
T 27 N
T 26 N
T 25 N
R 89 W
R 88 W
R 87 W
R 86 W
FERRIS MOUNTAINS
Whiskey Gap
Little Cherry Creek
Cherry Creek
West Branch Pete Rush Ditch
Arkansas Creek
Indian Creek
Birch Creek
Cottonwood Creek
Cress Creek
Sand Springs Creek
Hanna Mahoney Res No 2
Marsh Reservoir
Big Sand Spring
Youngs Pass
Ferris
Sand Dunes
Powerline
Pipeline
Springs
Spring
Recommended for Wilderness
Recommended for Nonwilderness
Land outside WSA Recommended for Wilderness
Split Estate
State
Private
NONE
0 1 2 3 4 5 6 7 8
MILES
Ferris Mountains Proposal
WY–030–407
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	22,245
Split Estate (BLM surface only)	0
Inholdings (State, private)	160
Total	22,405
Within the recommended wilderness boundary	
BLM (within WSA)	22,245
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	22,245
Inholdings (state, private)	160
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM Land not recommended for Wilderness	0
Inholdings (state, private)	0

2. **RECOMMENDATION AND RATIONALE** -- 22,245 acres recommended for wilderness
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate the entire area as wilderness (Map 1). This is considered to be the environmentally preferable alternative as it will result in the least change in the natural environment over the long term. This recommendation for wilderness will further apply to any additional inholding acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and provides additional information on acquisition of inholdings.

In recommending this area for wilderness, the exemplary quality of its wilderness values was a key consideration. The WSA is in a natural state, rugged and roadless. There is a lack of development in the Ferris Mountains WSA. The wilderness inventory of this area judged the WSA to be natural in appearance. One man-made intrusion in the area was the Babb's Mine which included an old mine access road and mineral exploration area. This scar has since been reclaimed entirely and no longer represents an intrusion into the area's natural appearance.

Outstanding opportunities for solitude are available throughout the WSA. The area's ruggedness, its roadless nature, and its size all contribute to the outstanding opportunities for solitude. Visitors to the area would be able to avoid the sights and sounds of others and find seclusion in this rugged area. Major canyons distributed throughout the WSA offer places to escape the activities of others.

The Ferris Mountains WSA provides a number of high quality classic wilderness recreation opportunities. These include hiking and backpacking, horseback riding, camping, studying nature, and mountain climbing. Big game hunting is of exceptional quality. The Ferris Mountains WSA also contains a portion of the east rim of the Wyoming Great Divide Basin and the Continental Divide. All of these features combine to offer a diverse recreation opportunity.

Designation of this area as wilderness would add an ecosystem not currently represented in the wilderness system. All 22,245 acres of the Ferris Mountains WSA are included in the Wyoming Basin/Douglas Fir Forest ecosystem. No designated wilderness areas contain this ecosystem. Only one other BLM area in Wyoming is under study that contains this ecosystem, and the example in the Ferris Mountains is judged to be the most natural of the areas studied in this state.

The wilderness recommendation would not conflict with other resource uses in the WSA. Grazing of the area will be allowed to continue. The area has low potential for energy and mineral resources. It is unlikely that timber resources would have any commercial value in the foreseeable future.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Ferris Mountains WSA has an essentially natural character. The area is extremely rugged with elevations rising over 10,000 feet. The WSA contains numerous high ridges and deep canyons with no evidence of past human activity. Dense timber, interspersed with rock outcrops and open grassy meadows, contribute to the natural appearance of the area.

The only significant human imprints noted during the wilderness inventory were those associated with the Babb's Mine. These included an old two-track access road and two adits. Since the inventory, these intrusions have been reclaimed so that they no longer detract from the WSA's natural appearance. The adits were closed and recontoured; the road was obliterated. The entire disturbed area was reseeded with native vegetation. Visual distances, rugged topography, and dense vegetation all serve to obscure other minor imprints of man within the WSA. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

B. **Solitude:** The Ferris Mountains WSA contains outstanding opportunities for solitude. Extreme local relief and abundant vegetative cover combine to provide outstanding opportunities to experience solitude. Substantial vegetative and topographic screening is provided by the area's steep mountain slopes, its deep secluded canyons, and its abundant forest cover. Scattered open meadows in the central part of the WSA mix with the densely forested stands to provide a diverse and quality experience without compromising the feeling of isolation. The majestic views of the Sweetwater Valley to the north and the large expanse of Separation Flat to the south provide a feeling of spaciousness. The WSA's diversity encourages freedom of movement within its boundaries.

C. **Primitive and Unconfined Recreation:** The Ferris Mountains WSA, in combination with its relatively large size, diversity, and ruggedness, contains outstanding opportunities for a primitive and unconfined type of recreation. The WSA's ridges, canyons, valleys and meadows offer outstanding opportunities for hiking, hunting, camping and backpacking. These opportunities are further enhanced because the Continental Divide National Scenic Trail is proposed to run through a portion of the WSA. A climb to Ferris Peak offers an exceptional hiking experience, where visitors must pick their own routes because there are no trails to the top. Hunting within the WSA is considered exceptional and the scenic values are unique to the region.

D. **Special Features:** The Madison Formation is a particularly unique large limestone outcrop. This formation is a series of large limestone fins protruding from the south side of the Ferris Mountains and extends nearly the entire length of the WSA. The Madison Formation can be seen for many miles away and contributes to the WSA's status as a state and regional landmark.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of the WSA would add an ecosystem not presently represented in the National Wilderness Preservation System. There is only one other BLM area in Wyoming under study with this ecosystem, and the example in this WSA is judged to be the most natural of the areas studied in this state. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Studies Classification	NWPS Areas		Other BLM	
Domain/Province/PNV	areas	acres	areas	acres
	NATION WIDE			
Dry Domain/ Wyoming Basin Province/Douglas-fir Forest	0	0	1	6,339
	WYOMING			
	0	0	1	6,339

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, WY	27	4,080,891	32	443,414
Cheyenne, WY	27	1,950,377	11	69,300

C. **Balancing the geographic distribution of wilderness areas:** The Ferris Mountains WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Although Wyoming and neighboring states contain a great deal of designated wilderness, no units of the National Wilderness Preservation System are located in central Wyoming. The Ferris Mountains WSA would help fill this gap.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character).

The Ferris Mountains WSA is manageable as wilderness. There are no pre-FLPMA oil and gas leases in the WSA. The post-FLPMA leases contain the Wilderness Protection Stipulation and the potential for oil and gas development is low.

The only concern relates to the 160-acre private inholding. If the inholding is developed in the future, an access route would be needed. The development and access route could to some degree impair BLM's ability to manage the directly affected lands as wilderness. However, the WSA is still considered manageable as wilderness because it is unlikely that any development would occur, and even if it did, the access route would be less than 1/2 mile in length.

Energy and Mineral Resource Values

The U.S. Geological Survey and U.S. Bureau of Mines conducted a mineral assessment of the Ferris Mountains WSA in 1983 and 1984 (U.S. Geological Survey Bulletin 1757-C, 1988). The results of that report provide the basis for the following information.

The results of that assessment show that there are no identified mineral resources in the WSA. There is low resource potential for minerals including gold, silver, copper, lead, zinc, iron, nickel, molybdenum, tungsten, lithium, beryllium, manganese, calcium carbonate, and silica. The mineral assessment also concluded that there is no resource potential for phosphate, gypsum, uranium, thorium, and oil and gas.

Two mineralized areas (the Babbs mine and the Spanish mine) were examined and sampled in detail by the Bureau of Mines. The Babbs mine area contains no current claims. The samples analyzed from this area contained only small amounts of gold, silver and copper. Most samples did not contain either precious or base metals. The conclusion drawn by Bureau of Mines is that no occurrence of base or precious metals in the Babbs mine area constitutes a resource.

The Spanish Mine claims lie partially within the Ferris Mountains WSA. The mineral assessment found evidence of mineralization generally consisting of low-grade copper, lead, zinc, silver, arsenic, and rare traces of gold. Again, none of these mineral occurrences are classified as an identified resource.

There is no present production of any mineral resource in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
COMPARATIVE ANALYSIS OF IMPACTS

Issue Topics	Proposed Action (All Wilderness)	No Wilderness	Enhanced Wilderness
Wilderness Values	Wilderness values retained on 22,245 acres. Impacts to naturalness and solitude would not occur on 4,000 acres.	Naturalness and solitude lost or impaired on 4,000 acres. No legal protection of wilderness values on 22,245 acres.	Wilderness values retained on 24,045 acres. Impacts to naturalness and solitude would not occur on 4,000 acres.
Energy and Mineral Resources	22,245 acres closed to mineral entry and leasing.	22,245 acres open to mineral entry and leasing.	24,045 acres closed to mineral entry and leasing.
ORV Use	Ten visitor-days annually displaced from 22,245 acres; insignificant impact due to better opportunities on nearby public lands.	Ten visitor-days annually displaced from 22,245 acres. No increase in vehicle accessibility; no significant impacts.	One hundred-fifty visitor-days annually displaced from 24,045 acres; insignificant impact due to better opportunities on nearby public land.
Forestry acres of forest land forgone.	8 MMBF harvest on 1,000 acres forgone. Timber management on remaining 8,000 other timber management could Sales unlikely in foreseeable future.	8 MMBF harvest on 1,000 acres over next 50 to 100 years; of forested land forgone. Sales unlikely occur on remaining 8,000 acres of forested land, but sales are unlikely in forseeable future.	8 MMBF harvest on 1,000 acres forgone. Timber management on remaining 8,000 acres in foreseeable future.
Wildlife	No impacts. Long-term protection of wildlife habitat on 22,245 acres. Prescribed burns on 6,000 acres would double bighorn sheep population.	No impacts. Loss of 1,000 acres of habitat over short term while harvesting occurs. Prescribed burns on 6,000 acres would double bighorn sheep population.	No impacts. Long-term protection of wildlife habitat on 24,045 acres. Prescribed burns on 6,000 acres would double bighorn sheep population.
Raptors	No impacts. Long-term protection of nesting habitat on 22,245 acres.	No impacts. Nesting habitat protected because timber harvest would not occur during nesting activity.	No impacts. Long-term protection of nesting habitat on 24,045 acres.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: During the inventory phase, 36 comments were received on the Ferris Mountains WSA. Twenty supported inclusion of this unit as a wilderness study area and 11 were opposed to the unit's inclusion. Those who favored wilderness study believed that the unit had all the prerequisite wilderness characteristics for a WSA. Those opposed cited reasons such as mineral values, the loss of timber resources, and elimination of motorized access for hunting.

Draft EIS: During formal public review of the draft EIS, a total of 45 comments, both written and oral, were received. Of those, four oral statements were received at the public hearing held in Rawlins, Wyoming; the remaining 41 comments were written responses to the draft EIS. In general, 26 comments favored wilderness designation and 11 comments favored no wilderness designation. Eight comments addressed the relative merits of the EIS, but took no formal position on wilderness designation or nondesignation.

Support for wilderness designation stemmed from a desire to protect some of the public lands from commercial exploitation. Opposition to designation was based on mineral potential and the desire for uses other than wilderness.

Of all comments received, 4 were from federal agencies and 8 were from state agencies. No comments were received from local agencies. Of the federal agencies, the Environmental Protection Agency, National Park Service, and the Fish and Wildlife Service supported the Proposed Action (All Wilderness Alternative). Of the state agencies, the Wyoming Game and Fish Department, the Department of Environmental Quality (Water Quality Division), and the Wyoming Recreation Commission all supported the Proposed Action. The Geological Survey of Wyoming and the Department of Agriculture supported the No Wilderness Alternative. The State Engineer's Office voiced some concern about wilderness designation, and the Oil and Gas Commission had no comment. In addition, the Governor's Office had no overall position regarding wilderness designation, but were opposed to inclusion of state-owned land or mineral estates in BLM WSAs.

APPENDIX 1
ESTIMATED COST OF ACQUISITION OF NON-FEDERAL HOLDINGS
WITHIN AREAS RECOMMENDED FOR DESIGNATION [1]

Legal Description (Prior to any Subdivisional)	Total Acreage	Number of Owners (If Parcel has been Subdivided)	Type of Ownership by Estate (Federal, State, Private, other)		Presently Proposed for Acquisition (Yes, No)	Preferred Method of Acquisition (Purchase, Exchange, other)	Estimated Cost of Acquisition	
			Surface Estate	Subsurface Estate			Land Costs	Processing Costs
Parcel 1 T.27N.,R.87W Sec. 29, NE1/4SE1/4, S1/2SE1/4 Sec. 32, NW1/4NE1/4	160	1	Private	Private	Yes	Exchange		

[1] The standard costs in this appendix in no way represent a formal appraised value of the land in general estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

ENCAMPMENT RIVER CANYON WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 4,547 acres

The Encampment River Canyon WSA (WY-030-301) includes 4,547 acres of BLM lands with no inholdings or split estate lands (see Table 1). The WSA is located in southern Carbon County, approximately 2 miles south of Encampment, Wyoming and 1 mile north of the U.S. Forest Service Encampment River Wilderness. It lies in the foothills of the Sierra Madre mountains.

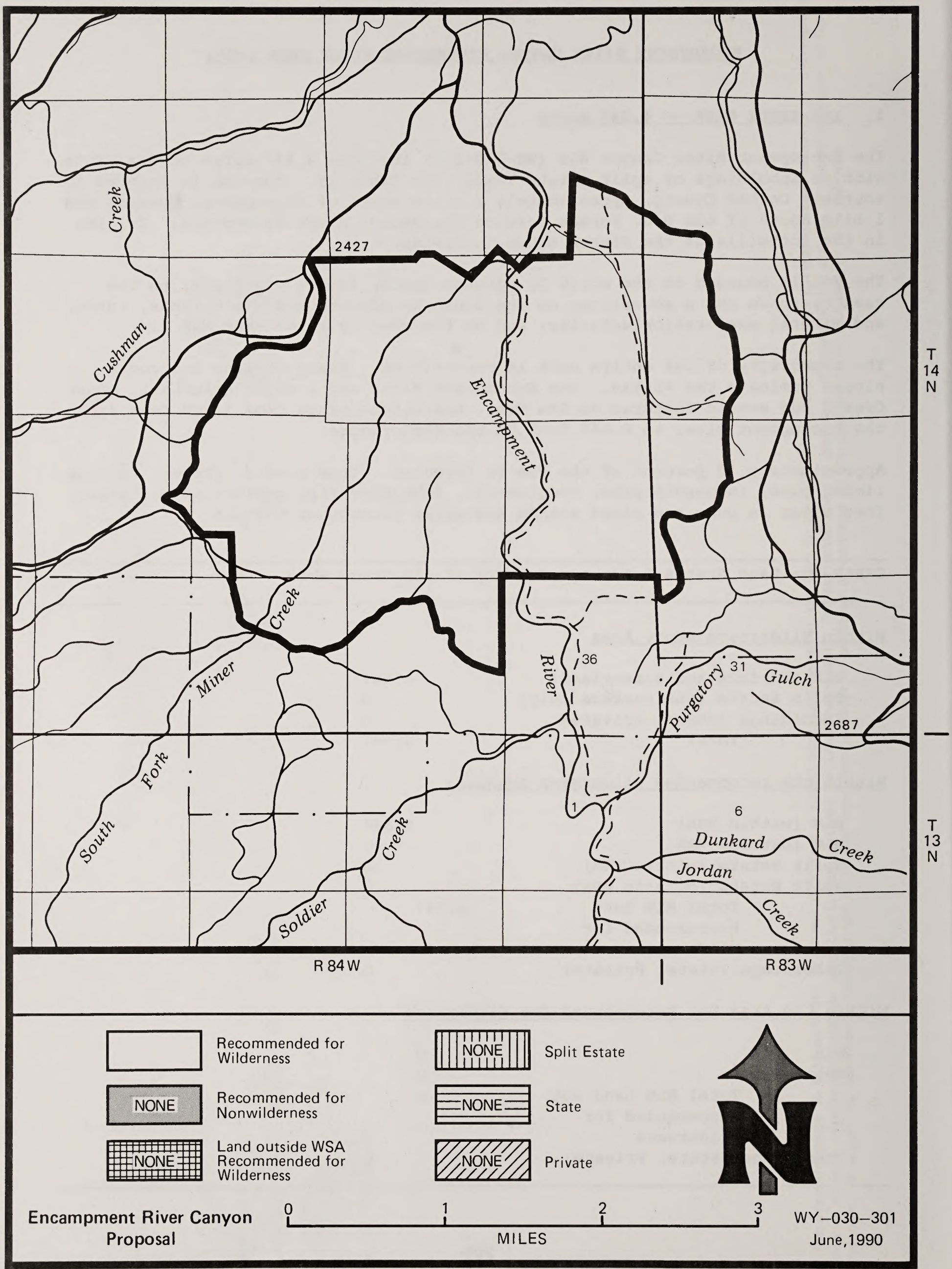
The WSA is bounded on the north by private lands, fences and roads; on the east by roads and a powerline; on the south by private and state lands, roads, and mineral exploration activity; and on the west by roads (see Map 1).

The topography of the entire unit is mountainous. Steep canyons and rocky slopes dominate the vistas. The Encampment River and a major tributary, Miner Creek, add scenic features to the WSA. Elevations range from 7,200 feet along the Encampment River to 8,545 feet on the high ridges.

Approximately 10 percent of the WSA is forested. Tree species present include limber pine, lodgepole pine, Douglas-fir, subalpine fir, cottonwood and aspen. They occur in pure and mixed stands scattered throughout the WSA.

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area		
BLM (surface and subsurface)		4,547
Split Estate (BLM surface only)		0
Inholdings (State, Private)		0
Total		4,547
Within the recommended wilderness boundary		
BLM (within WSA)		4,547
BLM (outside WSA)		0
Split Estate (within WSA)		0
Split Estate (outside WSA)		0
Total BLM Land Recommended for Wilderness	4,547	
Inholdings (State, Private)		0
Within the Area Not Recommended for Wilderness		
BLM	0	
Split Estate	0	
Total BLM Land Not Recommended for Wilderness	0	
Inholdings (State, Private)		0


Creek
2427
Cushman
Encampment
T 14 N
Creek
Miner
36
River
31
Purgatory
Gulch
2687
South
Fork
1
6
Dunkard
Creek
T 13 N
Jordan
Creek
Creek
Soldier
R 84 W
R 83 W
Recommended for Wilderness
NONE
Recommended for Nonwilderness
NONE
Land outside WSA Recommended for Wilderness
NONE
Split Estate
NONE
State
NONE
Private
N
0
1
2
3
MILES
Encampment River Canyon Proposal
WY–030–301
June, 1990

Lower elevations and drainages are characterized by narrow belts of deciduous trees (cottonwoods, willows, alders), coniferous trees (Douglas-fir, true firs), grasses, and forbs bordering the Encampment River.

The middle and upper elevations along with the rocky slopes are primarily composed of a mosaic of bunchgrass with small shrubs (sagebrush, mountain mahogany, bitterbrush, serviceberry) on steep canyon slopes, and small fingers of trees in the draws and gullies. This mosaic of vegetation has been influenced by wildfires and through differing aspects of the canyon.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Final Great Divide Resource Area Wilderness Environmental Impact Statement filed in August, 1990. There were two alternatives analyzed in the EIS including All Wilderness, which is the recommendation in this report, and No Wilderness.

2. <u>RECOMMENDATION AND RATIONALE</u> -- 4,547 acres recommended for wilderness
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate the entire area as wilderness. This is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment over the long term.

In recommending the WSA for wilderness, the quality of the area's wilderness values was a key consideration. The WSA is in a natural state, rugged and scenic. The WSA consists mainly of the Encampment River and Miner Creek canyons, both steep-walled and rugged with dense vegetation. The area does contain a few man-made features, including a fence, the remains of two old cabins, the washed out remains of a river dam, numerous prospect pits and tunnels, and the remains of a wooden pipeline. However, these have weathered for many years and now blend into the overall view. They do not seriously impair the wilderness character of the area.

Outstanding opportunities for solitude are available throughout the WSA. The area's ruggedness and roadless nature contribute to the outstanding opportunities for solitude. Although most visitor use is concentrated on the Encampment River Trail that parallels the river, visitors would be able to escape the sights and sounds of others in the numerous side canyons in the WSA.

Opportunities for primitive and unconfined recreation are outstanding in the WSA. Opportunities include hiking, backpacking, horseback riding, kayaking, canoeing, hunting, fishing, wildlife viewing, and photography. The Encampment River Trail parallels the river and provides access to its entire length. The Wyoming Game and Fish Department has classified the Encampment River as a "Class 2" stream, which means that it is very good trout water of statewide importance.

Conflicts with other resource uses of this WSA are limited. The area provides crucial winter range for bighorn sheep, elk, and mule deer. Prescribed burning of approximately 600 acres is needed to improve the quantity and quality of the winter range. In addition, certain range improvements are needed to achieve rangeland management objectives. Although both prescribed

fire and new range improvements are allowed in designated wilderness, these activities can be done only under very strict conditions. Designating this area as wilderness could increase the cost sufficiently to make these projects unfeasible.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. Naturalness: Most of the WSA is in a relatively natural state. A fence line crosses one half of the WSA, but its location is not intrusive except at one place on the hiking trail that parallels the river. The area also has a few two-track trails, remains of two old cabins and the washed out remains of a river dam, numerous prospect pits and tunnels, and the remains of a wooden pipeline. These intrusions have weathered for many years and now blend into the overall view. Except for two piles of mine tailings, the intrusions are not noticeable from a distance. They do not seriously impair the wilderness character of the WSA as a whole.

The International Order of Odd Fellows (IOOF) has developed a private parcel of land adjacent to the WSA along the river; however, due to screening provided by trees, rock outcrops, and steep canyon walls, the area is not noticeable from within the WSA. The development does not impair the wilderness character of the WSA.

B. Solitude: The WSA offers opportunities for solitude in the canyon. The deep canyons and high rocky ridges provide topographic screening, and the vegetation of the area contributes further screening. At current and projected levels of use, contacts between visitors would be high along the trail, which would reduce the level of solitude. The portion of the WSA above the canyon is accessible by vehicles and solitude qualities are diminished.

C. Primitive and Unconfined Recreation: The Encampment River Canyon WSA offers opportunities for a great variety of recreational activities, including fishing, hunting, backpacking, hiking, horseback riding, wildlife viewing and photography, camping, rock hounding, and sightseeing. The river canyon attracts recreationists from Wyoming and the neighboring states of Colorado, Nebraska, and Utah.

The Wyoming Game and Fish Department (WGFD) has classified the Encampment River as very good trout waters with statewide importance.

The Encampment River Trail parallels the river and provides access to the entire length of the river. The trail is closed to motorized vehicle use year round, and the entire WSA is closed to motorized traffic in the winter for big game protection.

Mule deer hunting is very popular within the WSA as, locally, it is considered a potential trophy area. There are no hunting seasons on bighorn sheep in the area because of low sheep numbers.

D. Special Features: The Encampment River Canyon contains sites associated with early exploration and mining activities of regional historical importance.

A one mile wide corridor along the Encampment River is proposed for National Natural Landmark (NNL) designation. A portion of the proposed NNL lies within the WSA.

Diversity in the National Wilderness Preservation System

A. Expanding the diversity of natural systems and features as represented by ecosystems and landforms: Wilderness designation of the WSA would not expand the diversity of ecosystem representation in the National Wilderness Preservation System. The ecosystem is already represented in the wilderness system by 41 areas covering 4,756,981 acres. Of this total, 12 wilderness areas are located in Wyoming and cover 1,633,603 acres. Nationwide there are 9 WSAs under study with this ecosystem, two of which are in Wyoming. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
	NATION WIDE			
Dry Domain/ Rocky Mountain Forest Province/ Western Spruce-fir Forest	41	4,756,981	9	64,171
	WYOMING			
	12	1,633,603	2	5,692

B. Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers: The WSA is within a five hour drive of six major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, Wyoming	27	4,080,891	32	461,112
Cheyenne, Wyoming	27	1,950,377	11	86,998
Boulder, Colorado	33	2,719,962	27	466,314
Denver, Colorado	33	2,719,962	27	466,314
Ft. Collins, Colorado	33	2,719,962	27	466,314
Greeley, Colorado	33	2,719,962	27	466,314

C. **Balancing the geographic distribution of wilderness areas:** The Encampment River Canyon WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. There are 4 wilderness areas in southern Wyoming in close proximity to this WSA. Also, there are 8 areas in northern Colorado within 200 miles or less of the WSA.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character).

The Encampment River Canyon WSA is manageable as wilderness. There are no oil and gas leases or inholdings in the WSA and mineral resource potential is low.

The only concern relates to the existence of post-FLPMA mining claims within or partially within the WSA. These claims are located for copper, gold, and silver and have not been developed. Upon wilderness designation, validity examinations would be conducted on existing mining claims. Development of valid claims would be allowed with restrictions to prevent unnecessary or undue degradation of the land. Mining activity would impair BLM's ability to manage the directly affected lands as wilderness but it is unlikely that development would occur.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines conducted a mineral assessment of the Encampment River Canyon WSA in 1987 (U.S. Geological Survey Bulletin 1757-F, 1989). The results of that report provide the basis for the following information.

The results of the assessment show that there are no identified resources in the WSA. There is low resource potential for undiscovered metallic commodities and industrial minerals. The mineral assessment also concluded that there is no resource potential for oil and gas, coal, geothermal resources, or uranium.

There is no present production of any mineral resource in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
SUMMARY OF IMPACTS
Encampment River Canyon WSA

Issue Topics	Proposed Action (All Wilderness)	No Wilderness
Naturalness	Prescribed burning would destroy naturalness for 1-3 years on approximately 1,200 acres. Closing ORV use yearlong would have a positive effect on 500 acres. Range improvement projects would have a negative effect on 2-3 acres. vicinity (2-3 acres).	Prescribed burning would destroy naturalness for 1-3 years on approximately 1,200 acres. ORV use in the upland would have a negative effect from May 1 to November 30 on about 500 acres. Range improvement projects would destroy naturalness in the immediate
Outstanding Opportunities for Solitude and/or Primitive Unconfined Recreation	Prescribed spring burning would have a negative effect for 2-3 weeks on solitude, but few visitors are present. Closing ORV use yearlong would have a minor, but positive effect. Range projects would destroy solitude during construction. Cattle use would have a negative unconfined recreation.	Prescribed burning would have a negative effect for 2-3 weeks in the spring but few visitors are present. ORV use in the uplands would have little effect because most visitation is on the canyon trail. Range projects would destroy solitude during construction. Cattle use in the area would have a negative effect on primitive, affect on primitive, unconfined recreation
Special Features	There would be positive effects on special features because there would be no degrading actions.	There would be no negative affects anticipated on special features because surface-disturbing activities are not expected.
Recreational Opportunities	Vegetative manipulation would have a positive effect on bighorn sheep viewing because of an anticipated increase in numbers. There would be no motorized recreation. There would be continued visitor/cattle conflicts.	Vegetative manipulation would have a positive effect on bighorn sheep viewing because of an anticipated increase in numbers. Cattle-visitor conflicts would continue even though range improvements would result in better cattle distribution.
Big Game Management	Yearlong ORV closure would have a positive effect on big game by reducing harassment. Big game habitat would be enhanced and an increase in big horn sheep numbers is expected. effect.	Winter closure of ORVs would have a positive effect on big game as would prescribed burning and installation of guzzlers. Bighorn sheep numbers may increase to 150 head. Range improvement projects would have little
Livestock Management	There would be a negative effect on livestock management because of the restriction	There would be no negative effects on livestock management from management actions in this alternative. on the use of motor vehicles.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: During the inventory phase, 53 comments were received on the Encampment River Canyon WSA. Twenty-four supported inclusion of this unit as a wilderness study area and 29 were opposed to the unit's inclusion. Those who favored wilderness study believed that the unit had all the prerequisite wilderness characteristics for a WSA. Those opposed cited reasons such as elimination of motorized access, the small size of the area, a preference for multiple-use rather than wilderness, and a lack of wilderness characteristics.

Draft EIS: During formal public review of the draft EIS, a total of 131 written comments were received. There were no oral or written comments received at the wilderness public hearings held in Rawlins and Laramie, Wyoming. In general, 125 comments favored wilderness designation and 1 comment favored no wilderness designation. The comments in favor of wilderness designation were primarily generic comments which included two other WSAs. Five comments addressed the relative merits of the EIS, but took no formal position on wilderness designation or nondesignation.

Support for wilderness designation stemmed from a desire to protect some of the public lands from commercial exploitation. Opposition to designation was based on the small size of the area.

Of all comments received, 2 were from federal agencies and 3 were from state agencies. No comments were received from local agencies. Of the federal agencies, the Environmental Protection Agency and the Bureau of Mines did not state a formal position. Of the state agencies, the Geological Survey of Wyoming and the Wyoming State Engineer's Office did not state a formal position. The Wyoming Game and Fish Department prefers an ACEC designation but, if that does not occur, they support a wilderness designation.

PROSPECT MOUNTAIN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 1,145 acres

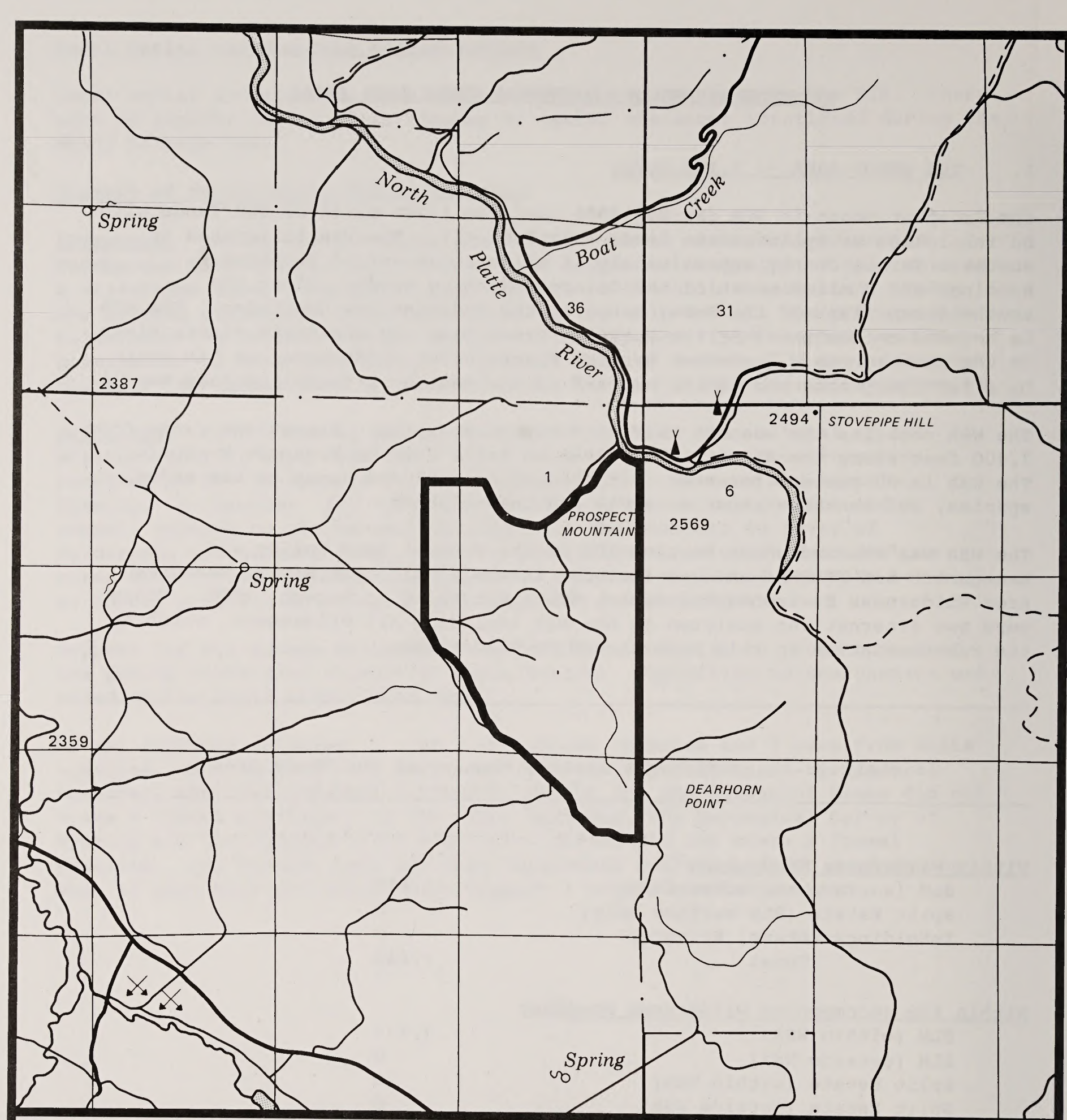
The Prospect Mountain WSA (WY-030-303) includes 1,145 acres of BLM lands with no inholdings or split estate lands (see Table 1). The WSA is located in southern Carbon County approximately 16 miles southeast of Encampment, Wyoming, and 8 miles north of the Colorado-Wyoming border, along the southwestern flank of the Snowy Range in the Medicine Bow Mountains. The WSA is bounded on the north by the Prospect Creek Road and the North Platte River, on the east by the U.S. Forest Service Platte River Wilderness, on the south by a two-track road and fenceline, and on the west by a fenceline (see Map 1).

The WSA contains the western half of Prospect Mountain. Elevations range from 7,400 feet along the North Platte River to 8,430 feet on Prospect Mountain. The WSA is 70 percent forested, with lodgepole pine and aspen as the major species, and contains riparian areas and beaver ponds.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Final Great Divide Resource Area Wilderness Environmental Impact Statement filed in August, 1990. There were two alternatives analyzed in the EIS including All Wilderness, which is the recommendation in this report, and No Wilderness.

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	1,145
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	1,145
Within the recommended wilderness boundary	
BLM (within WSA)	1,145
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	1,145
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM Land Not Recommended for Wilderness	0
Inholdings (State, Private)	0



Recommended for Wilderness

NONE — Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

NONE — State

NONE — Private

Prospect Mountain Proposal

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MILES

WY–030–303
JUNE,1990

2. **RECOMMENDATION AND RATIONALE**---**1,145 acres recommended for wilderness**
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate the entire area as wilderness. This is considered to be the environmentally preferable alternative as it will result in the least change in the natural environment over the long term.

In recommending this area for wilderness, the outstanding quality of the area's wilderness values and its location adjacent to the U.S. Forest Service Platte River Wilderness were key considerations. The WSA lies directly adjacent to the Platte River Wilderness, sharing a common border for nearly two miles. The WSA would make an excellent expansion of an existing area and would add the western half of Prospect Mountain to the wilderness system.

The WSA, in combination with the existing wilderness area, contains outstanding wilderness values. The WSA is in a natural state; except for two short two-track trails that dead end, the WSA is free of human-related intrusions. The WSA has mountainous topography with dense forest cover, offering a high degree of solitude. The WSA's combination of topographic and vegetative screening create a variety of secluded places where visitors would be able to escape the sights and sounds of others.

The area offers outstanding opportunities for primitive recreation. Mule deer and elk hunting, hiking, camping, and rock hounding are excellent in the area. The WSA is exceptionally scenic and has abundant wildlife. The North Platte River, adjacent to the WSA, offers exceptional fishing and floatboating opportunities.

Conflicts with other resources uses of this WSA are limited. Designation of the area as wilderness would conflict with forest management because timber harvest would be prohibited. Grazing of the area would be allowed to continue. There is low potential for mineral resources, no potential for energy resources, and no identified mineral resources in the WSA. Mining activity has not occurred though there are post-FLPMA mining claims in the WSA. Development of these claims is unlikely.

3. **CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS**

Wilderness Characteristics

A. **Naturalness:** The Prospect Mountain WSA has an essentially natural character. Man's influence, for the most part, is unnoticeable. Except for two short two-track trails that dead end, the area is free of intrusions. These intrusions blend into the overall view and are not noticeable from a distance. They do not impair the wilderness character of the WSA. The vegetation and/or topography screen the primitive trails, providing a high degree of naturalness.

B. **Solitude:** Prospect Mountain and Prospect Creek, coupled with dense forest cover and riparian areas, provide a high degree of solitude, while creating numerous secluded places for recreational activities. With 70 percent of the area covered by trees, visitors are easily screened from one another. The Platte River Wilderness, which forms the eastern boundary of the WSA and contains 23,000 acres, enhances the opportunity for solitude in this WSA because of its undeveloped nature.

C. **Primitive and Unconfined Recreation:** The Prospect Mountain area provides a variety of recreational activities, including fishing, hunting, sightseeing, hiking, camping, rock hounding, and wildlife viewing. The area is used by local residents and nonresidents alike. The North Platte River adjacent to the WSA offers high quality fishing and floatboating, and is a well-known national attraction.

Other major recreational use is associated with mule deer and elk hunting. This area provides high-quality hunting and has regional significance.

Opportunities for sightseeing within the WSA are numerous. The area is exceptionally scenic with nongame wildlife such as raptors and small mammals abundant in the WSA.

D. **Special Features:** The Prospect Mountain WSA is highly scenic. Color and texture of the WSA contrast sharply with the adjacent high desert environment. Colors are many shades of green and blue in the warmer months and change to green, gold and brown in the fall.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of the WSA would not expand the diversity of ecosystem representation in the National Wilderness Preservation System. The ecosystem is already represented in the wilderness system by 41 areas covering 4,756,981 acres. Of this total, 12 wilderness areas are located in Wyoming and cover 1,633,603 acres. Nationwide there are 9 WSAs under study with this ecosystem, two of which are in Wyoming. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Domain/Province/PNV				
	NATION WIDE			
Dry Domain/ Rocky Mountain Forest Province/ Western Spruce-fir Forest	41	4,756,981	9	64,171
	WYOMING			
	12	1,633,603	2	5,692

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of six major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Casper, Wyoming	27	4,080,891	32	464,514
Cheyenne, Wyoming	27	1,950,377	11	90,400
Boulder, Colorado	33	2,719,962	28	469,716
Denver, Colorado	33	2,719,962	28	469,716
Ft. Collins, Colorado	33	2,719,962	28	469,716
Greeley, Colorado	33	2,719,962	28	469,716

C. **Balancing the geographic distribution of wilderness areas:** The Prospect Mountain WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. There are 4 wilderness areas in southern Wyoming in close proximity to this WSA. Also, there are 8 areas in northern Colorado within 200 miles or less of the WSA.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character).

The Prospect Mountain WSA is manageable as wilderness. There are no oil and gas leases or inholdings in the WSA and mineral resource potential is low.

The only concern relates to the existence of post-FLPMA mining claims within or partially within the WSA. These claims are located for various minerals, including copper, uranium, and feldspar and have not been developed. Upon wilderness designation, validity examinations would be conducted on existing mining claims. Development of valid claims would be allowed with restrictions to prevent unnecessary or undue degradation of the land. Mining activity would impair BLM's ability to manage the directly affected lands as wilderness but it is unlikely that development would occur.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines conducted a mineral assessment of the Prospect Mountain WSA in 1987 (U.S. Geological Survey Bulletin 1757-E, 1989). The results of that report provide the basis for the following information.

The results of the assessment show that there are no identified resources in the WSA. There is low resource potential for undiscovered metallic commodities and industrial minerals. The mineral assessment also concluded that there is no resource potential for oil and gas, coal, geothermal resources, or uranium.

There is no present production of any mineral resource in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
SUMMARY OF IMPACTS
Prospect Mountain WSA

Issue Topics	Proposed Action All Wilderness	No Wilderness
Wilderness	Prescribed burning on 120 acres would have a negative effect for two to five years.	ORV use would have a negative, though minor, effect. Prescribed burning would have a negative effect on 120 acres for two to five years. Forest management activities would impair naturalness.
Outstanding Opportunities for Solitude and/or Unconfined Recreation	Prescribed burning would be noticeable for about one year.	ORV use would have a negative, though minor, effect. Forest management activities would impair solitude during harvest and would have long-term, negative effects on primitive, unconfined recreation.
Special Features	Effect of burning on scenery would have a negative effect for two to five years on about 250 acres.	ORV use, prescribed burning, would have a negative effect on scenery on about 500 acres for two to five years. Forest management practices would have a negative affect on scenery on about 500 acres.
Recreational Opportunities	ORV users (about 500 visits/year) would be negatively effected.	Timber management practices would displace recreationists for two months in the summer every 10 years.
Big Game Management	There would be a minor, positive effect from ORV closure. Prescribed burning on 120 acres would have a positive effect on crucial elk winter range.	Prescribed burning would have a positive effect on crucial elk winter range.
Forest Management	There would be a natural forest species conversion from lodgepole pine to spruce fir. Fire hazard would increase. Productivity and health of the forest would be less than optimal. Two and one half million board feet of lumber would not be produced.	There would be little species conversion and less diversity in the forest. Fire hazard would be lessened. Two and one half million board feet of lumber would be harvested.

Local Social and Economic Considerations

Local social considerations were not an issue in the EIS. There were no impacts to the local social character identified during the study of this WSA. An economic consideration related to timber harvest was identified. Wilderness designation would prohibit timber harvest which would result in a loss of about 10 work years of potential employment and about $737,000 in potential revenue generation in the near future and would make a potential winter logging area unavailable.

Summary of WSA-Specific Public Comments

Inventory: During the inventory phase, 27 comments were received on the Prospect Mountain WSA. Eighteen supported inclusion of this unit as a wilderness study area and 7 were opposed to the unit's inclusion. Two comments did not indicate a preference. Those who favored wilderness study believed that the unit had all the prerequisite wilderness characteristics for a WSA and was located next to a U.S. Forest Service RARE II area. Those opposed cited reasons such as elimination of motorized access, a preference for multiple-use rather than wilderness, and the existence of enough wilderness acreage already in the system.

Draft EIS: During formal public review of the draft EIS, a total of 131 written comments were received. There were no oral or written comments received at the wilderness public hearings held in Rawlins and Laramie, Wyoming. In general, 127 comments favored wilderness designation and 1 comment favored no wilderness designation. The comments in favor of wilderness designation were primarily generic comments which included two other WSAs. Three comments addressed the relative merits of the EIS, but took no formal position on wilderness designation or nondesignation.

Support for wilderness designation stemmed from a desire to protect some of the public lands from commercial exploitation. Opposition to designation was based on the small size of the area.

Of all comments received, 2 were from federal agencies and 1 was from a state agency. No comments were received from local agencies. Of the federal agencies, the Environmental Protection Agency and the Bureau of Mines did not state a formal position. The Wyoming Game and Fish Department, a state agency, supported the Proposed Action (All Wilderness Alternative).

BENNETT MOUNTAINS WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 6,003 acres

The Bennett Mountains WSA (WY-030-304) includes 6,003 acres of BLM lands with no inholdings or split estate lands (see Table 1). The WSA is located in north central Carbon County east of Seminoe Dam and lies about 35 miles northeast of Rawlins, Wyoming. The WSA is part of the Seminoe Mountain range, a small rugged range which rises abruptly from the surrounding lowlands. The WSA is bounded on the north and east by private and state lands, on the south by the Powerline road, and on the west by the Bennett Mountain road (see Map 1).

The Bennett Mountains WSA contains three basic types of topography: the mountain plateau/ridges; the steep rock ledges; and the many tributary draws. Elevations range from 6,600 feet to 8,000 feet. The mountain, which is approximately four miles long within the WSA, has distinct rocky ledges and walls along the entire southern exposure, and the northern portion is traversed with numerous tree-filled drainages. In many places, the rocky walls are vertical outcrops that create a fortress type appearance. In most cases, all portions of the WSA are interspersed with grasses, sagebrush and other shrubs, and pockets of pine, aspen and willows. The higher elevations have considerably less vegetation and more rugged rocky features.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Final Great Divide Resource Area Wilderness Environmental Impact Statement filed in August, 1990. There were two alternatives analyzed in the EIS including No Wilderness, which is the recommendation in this report, and All Wilderness.

NONE	Recommended for Wilderness	NONE	Split Estate
	Recommended for Nonwilderness	NONE	State
NONE	Land outside WSA Recommended for Wilderness	NONE	Private

0 1 2 3 4 5
MILES

Bennett Mountains Proposal

WY–030–304
June, 1990

TABLE 1 - Land Status & Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	6,003
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	6,003
Within the recommended wilderness boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	6,003
Split Estate	0
Total BLM Land Not Recommended for Wilderness	6,003
Inholdings (State, Private)	0

2. **RECOMMENDATION AND RATIONALE -- 6,003 acres recommended for nonwilderness**
0 acres recommended for wilderness

The recommendation for this WSA is to release 6,003 acres for uses other than wilderness. The All Wilderness alternative is the environmentally preferable alternative as it would result in the least change to the natural environment over the long term. However, the nonwilderness recommendation would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

In recommending this WSA for uses other than wilderness, the relative quality of the area's wilderness values was a key consideration. Although the wilderness inventory notes that outstanding opportunities for solitude and primitive recreation exist in the WSA, these values are not found throughout the study area. Opportunities for solitude do exist in the canyons of the WSA, but these are relatively small areas in relation to the WSA as a whole. Visitor overlap would occur as people travel between canyons or seek to traverse the entire WSA. The WSA lacks a focal point for primitive recreation opportunities and the area does not contain unique or distinctive recreation opportunities.

There are no significant special features in this WSA which would be enhanced or protected under a wilderness designation. In addition, there are no resource conflicts in this WSA which a wilderness designation would help to resolve. There is low potential for mineral resources and there is no commercial forest land within the WSA. The low level of activity that is presently occurring in the WSA is expected to continue for the foreseeable future, with no appreciable change to the area's natural environment.

The ecosystem involved is already represented in the National Wilderness Preservation System, so adding this WSA would not contribute to the ecosystem diversity of the wilderness system. The Cloud Peak Wilderness (67,026 acres) in northern Wyoming contains the Dry Domain/Wyoming Basin Province/Sagebrush Steppe ecosystem that typifies this WSA.

The addition of this WSA would not expand opportunities for solitude and primitive recreation within a day's driving time of major population centers. There are 27 wilderness areas totalling nearly 4.2 million acres within 5 hours of Casper, Wyoming; similarly, there are 27 wilderness areas totalling almost two million acres within 5 hours of Cheyenne, Wyoming.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Bennett Mountains WSA is predominantly natural, with few human imprints. The mountain, which is approximately four miles long, has distinct rocky ledges and walls along the entire southern exposure, and the northern portion is traversed with numerous tree-filled drainages. In many places, the rocky walls are vertical outcrops that create a fortress type appearance. In most cases, all portions of the WSA are interspersed with grasses, sagebrush and other shrubs, and pockets of pine, aspen and willows. The higher elevations have considerably less vegetation and more rugged rocky features. The elevation ranges from approximately 6,600 to 8,000 feet. The only man-made intrusions in the WSA are approximately 4 miles of discontinuous two-track trails. These are not noticeable from a distance and have a minimal impact on the total area.

B. **Solitude:** The high plateau, coupled with numerous draws and rocky outcrops, provides a high degree of solitude. The mountain offers numerous secluded places for recreational activities. However, the areas are small and visitor overlap is likely as one travels between canyons. The spectacular view of Seminoe Reservoir to the southwest provides a feeling of spaciousness but also illustrates the effects of man's nearby development.

C. **Primitive and Unconfined Recreation:** The Bennett Mountains WSA provides opportunities for primitive recreational activities that primarily include hunting, hiking, trapping, camping, wildlife viewing, and sightseeing. The rugged and diverse terrain provides high quality opportunities for a primitive and unconfined type of recreation. There are no unique or exceptional recreation opportunities within this WSA.

D. **Special Features:** There are no significant special features within this WSA.

Diversity in the National Wilderness Preservation System

A. **Assessing the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of the WSA would not expand the diversity of ecosystem representation in the National Wilderness Preservation System. The ecosystem is presently represented in the wilderness system by one area (Cloud Peak) in northern Wyoming. Also, there are 16 other BLM areas in the state under study with this ecosystem. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
		NATION WIDE		
Dry Domain/ Wyoming Basin Province/Sagebrush Steppe	1	67,026	16	230,031
		WYOMING		
	1	67,026	16	230,031

B. **Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

TABLE 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas Areas	NWPS Areas Acres	Other BLM Studies Areas	Other BLM Studies Acres
Casper, Wyoming	27	4,080,891	32	459,656
Cheyenne, Wyoming	27	1,950,377	11	85,542

3. **Balancing the geographic distribution of wilderness areas:** The Bennett Mountains WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. Although Wyoming and neighboring states contain a great deal of designated wilderness, no units of the National Wilderness Preservation System are located in central Wyoming. The Bennett Mountains WSA would help fill this gap.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character).

The Bennett Mountains WSA is manageable as wilderness. There are no resource conflicts which would present problems for management. There are no oil and gas leases in the WSA and mineral resource potential is low. There are no mining claims in the WSA nor any inholdings.

Energy and Mineral Resource Values

The U.S. Geological Survey conducted an assessment of the geology and mineral resource potential of the Bennett Mountains WSA in 1983. The results of that assessment show that there is low potential for mineral resources. There is low potential for metallic resources, shales, clays, gypsum, oil and natural gas, and coal or peat.

Significant resources of stone and aggregate exist within the WSA but transportation costs render the deposits noneconomic and therefore of low potential.

There is no present production of any mineral resource in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
SUMMARY OF IMPACTS
Bennett Mountains WSA

Issue Topics	Proposed Action (No Wilderness)	All Wilderness
Naturalness	ORV use is low and would have little effect.	No ORV use would have a minor, positive effect.
Opportunities for Solitude and/or Primitive, Unconfined Recreation	ORV use is low and would have little effect.	No ORV use would have a minor, positive effect.
Recreational Opportunities	Use and values would change very little.	Two hundred and fifty (250) visits/year by ORV users would be eliminated, but could be accommodated in nearby areas.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: During the inventory phase, 21 comments were received on the Bennett Mountains WSA. Sixteen supported inclusion of this unit as a wilderness study area and 5 were opposed to the unit's inclusion. Those who favored wilderness study believed that the unit had all the prerequisite wilderness characteristics for a WSA. Those opposed cited reasons such as a lack of wilderness values and elimination of motorized access.

Draft EIS: During formal public review of the draft EIS, a total of 131 written comments were received. There were no oral or written comments received at the wilderness public hearings held in Rawlins and Laramie, Wyoming. In general, 124 comments favored wilderness designation and 2 comments favored no wilderness designation. The comments in favor of wilderness designation were generic comments which included two other WSAs. Five comments addressed the relative merits of the EIS, but took no formal position on wilderness designation or nondesignation.

Support for wilderness designation stemmed from a desire to protect some of the public lands from commercial exploitation. Opposition to designation was based on the desire to provide access and dispersed recreation opportunities in the area.

Of all comments received, 3 were from federal agencies and 2 were from state agencies. No comments were received from local agencies. Of the federal agencies, the National Park Service supported the All Wilderness Alternative. The Environmental Protection Agency and Bureau of Mines did not state a formal position. Of the state agencies, the Wyoming Game and Fish Department supported the Proposed Action (No Wilderness Alternative) and the Geological Survey of Wyoming did not state a formal position.

SUMMARY ANALYSIS OF SPECIFIC WSA RECOMMENDATIONS

ROCK SPRINGS DISTRICT

LAKE MOUNTAIN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 13,865 Acres

The Lake Mountain WSA (WY-040-110) is located in the Wyoming Range Mountains in Western Wyoming about 12 miles west-northwest of LaBarge in Sublette County. The WSA consists of 13,865 acres of BLM-administered public land with a 40-acre private inholding which is accessed by a two-mile long "cherrystemmed" road (see Table 1). The WSA is bounded on the north by the Bridger-Teton National Forest, on the west by the Deadline Ridge road, on the east by the Sheep Ridge road and on the south by the LaBarge Creek road (see map 1).

The WSA lies within the Wyoming Range in western Wyoming. It contains an irregular series of steep-sided ridges ranging in elevation from 7,400 feet to over 9,600 feet. Four main drainages are found within the WSA. Rock Creek, in the central part of the WSA, contains a population of Colorado Cutthroat Trout, which is a candidate threatened and endangered species. Forest cover is found throughout most of the area, occasionally interrupted by areas of sagebrush and open talus slopes.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Rock Springs District Wilderness Environmental Impact Statement filed in October 1990. There were two alternatives analyzed in the EIS: an all wilderness alternative and a no wilderness alternative, which is the recommendation in this report.

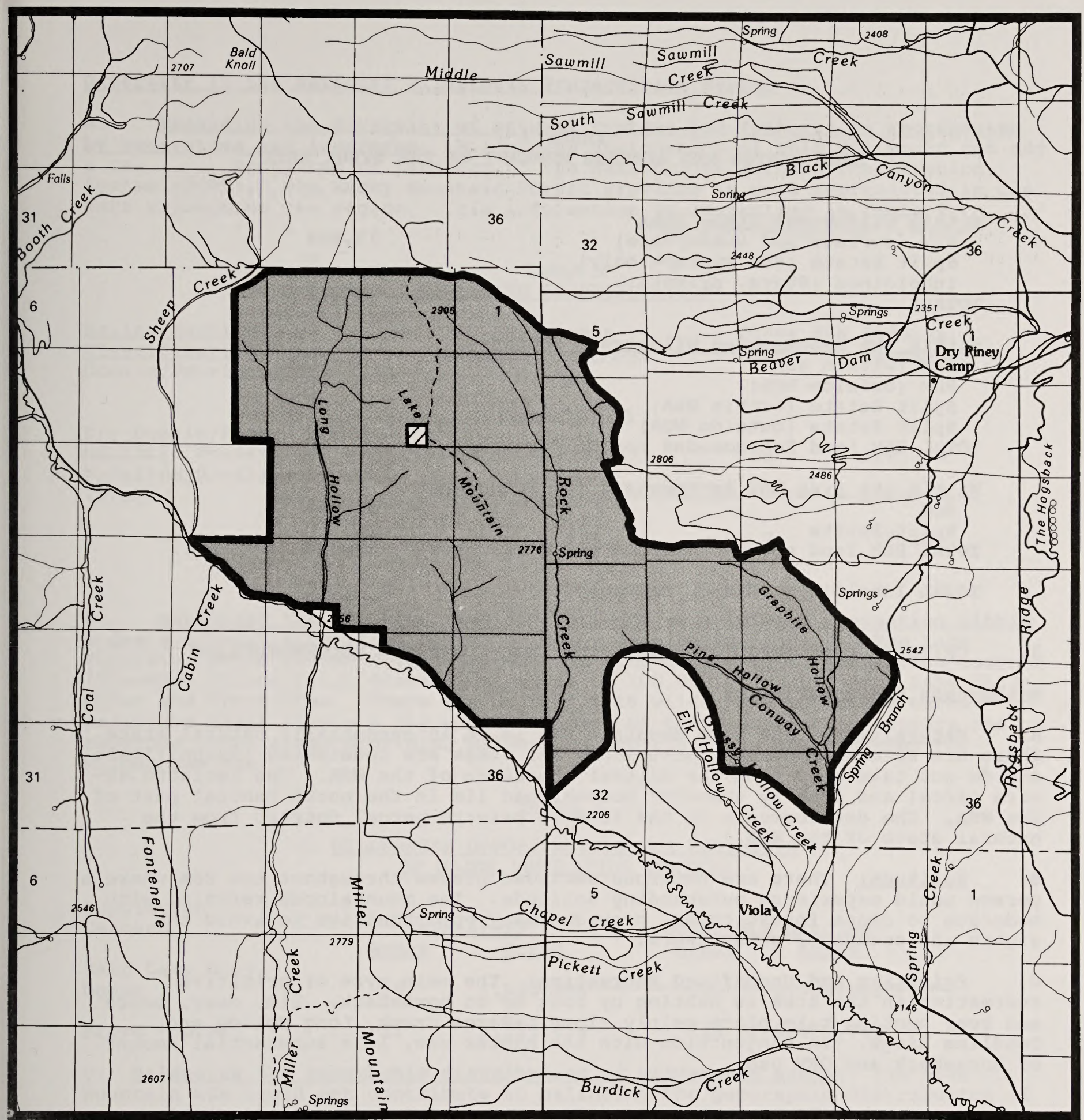
2. RECOMMENDATION AND RATIONALE -- 0 Acres Recommended for Wilderness 13,865 Acres Recommended for Nonwilderness

The recommendation of this report is to release the entire Lake Mountain WSA for uses other than wilderness (see Map 1). The all wilderness alternative is the environmentally preferable recommendation as it would result in the least change to the natural environment over the long term. However, the recommendation would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

In arriving at a nonwilderness recommendation, the WSA's potential for natural gas was a primary consideration. It is estimated that reserves underlying the WSA range between 5 and 6 trillion cubic feet (TCF). In addition, the WSA contains 600 acres of pre-FLPMA leases which are being held by production. The pre-FLPMA leases also present manageability problems, in that it would be extremely difficult to protect wilderness values in and around the leased area if development were to occur. Development is considered likely, given that the active Riley Ridge natural gas development area lies adjacent to the WSA.

The study area possesses high wilderness values, however, due to the presence of the adjacent Riley Ridge field and the estimated reserves, the nonwilderness recommendation was chosen.

The need for management of the Rock Creek ACEC also played a part in arriving at a nonwilderness recommendation for this WSA. The Rock Creek ACEC was established to protect and manage the Colorado Cutthroat Trout, a candidate species for listing as a federally protected threatened or endangered species. Wilderness designation would restrict management options which are designed to protect this sensitive species. Although certain management actions could occur, wilderness designation would increase the difficulty and expense of the actions. No actions which required the use of motorized and heavy equipment could be done.



Lake Mountain Proposal

WY–040–110
June, 1990

TABLE 1
LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

Within Wilderness Study Area	
BLM (surface and subsurface)	13,865
Split Estate (BLM surface only)	0
Inholdings (State, private)	0
TOTAL:	13,865
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
TOTAL BLM Land Recommended for Wilderness:	0
Within the Area Not Recommended for Wilderness	
BLM	13,865
Split Estate	0
TOTAL BLM land not recommended for Wilderness	13,865
TOTAL Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness:** The Lake Mountain WSA is in an essentially natural state. There are several man-made intrusions, but these are considered insignificant and do not take away from the natural character of the WSA. The isolated 40-acre parcel and "cherry stemmed" access road lie in the north central part of the WSA. The developments on the 40-acre private parcel detract from the natural state of the WSA.

B. **Solitude:** There are numerous secluded places throughout the WSA where a person could experience outstanding solitude. The mountainous terrain, with moderate to dense forest cover, provides many opportunities to avoid the sights and sounds of other users.

C. **Primitive and Unconfined Recreation:** The main type of primitive recreation in the area is hunting by foot or on horseback. Elk, deer, moose and bear hunting take place mainly along LaBarge Creek, Long Hollow and Deadline Ridge. In conjunction with the hunter use, is a substantial amount of horseback and ORV use.

D. **Special Features:** Rock Creek contains a pure strain of Colorado River cutthroat trout and part of the WSA has been designated an Area of Critical Environmental Concern (ACEC) to protect trout habitat. The Colorado River cutthroat trout has been identified as a candidate species for possible status as a threatened or endangered species.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). The Rocky Mountain Forest Province is well represented in the NWPS throughout the region. This information is summarized in Table 2.

TABLE 2
ECOSYSTEM REPRESENTATION

Bailey-Kuchler Classification Domain/Province/PNW	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
	NATION WIDE			
Dry Domain/Rocky Mountain Forest Province/Douglas-fir Forest	18	1,349,971	23	199,380
	WYOMING			
	9	851,433	7	72,146

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The Lake Mountain WSA is within five hours driving time of two major population centers (Standard Metropolitan Statistical Areas of 100,000 or more)--Salt Lake City-Ogden and Provo-Orem. There are currently 15 wilderness areas and three primitive areas within a day's driving time of these population centers and numerous other areas providing wilderness opportunities administered for wilderness use.

TABLE 3

WILDERNESS OPPORTUNITIES FOR RESIDENTS
OF MAJOR POPULATION CENTERS

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City - Ogden	18	1,925,081	151	5,705,086
Provo - Orem	21	2,255,116	133	5,451,742

C. **Balancing the geographic distribution of wilderness areas:** The Lake Mountain WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The ecosystem of this WSA is already represented widely throughout the wilderness use region.

Manageability: (The area must be capable of being effectively managed to preserve its wilderness character.)

The Lake Mountain WSA is manageable as wilderness. The isolated 40-acre parcel of private land near the center of the WSA and its "cherry stemmed" access road greatly complicate the manageability of the area. The private parcel has been subdivided into four ten-acre parcels and there are several landowners which complicate any possible exchange and make management more difficult. One summer home has been constructed and others are anticipated. The access road to the private lands also provides access to numerous jeep roads which are used by recreationists and livestock users. The WSA is bordered on the east by the Riley Ridge Overthrust Belt natural gas development project area which is a highly developed gas field. This natural gas field contains high concentrations of hydrogen sulfide gas (H2S); a spill or leak adjacent to the WSA could pose a serious threat to recreation users of the area. The sights and sounds from drilling and development activity are expected to continue or increase and would necessarily threaten wilderness values over the long-term and would make wilderness management difficult.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines prepared a mineral assessment for the Lake Mountain WSA. These documents and the Bureau of Land Management Resource Management Plan are the primary source for the following discussion.

There are approximately 600 acres of Pre-FLPMA leases within the WSA and an additional 950 acres of Post-FLPMA leases which are unitized and held by production. Many of the existing leases will expire by 1993.

There is currently a producing gas well 65 feet inside the northeastern boundary of the WSA, a second producing gas well is 1/2 mile from the east boundary and a producing gas well 2/3 of a mile from the north boundary.

Additional wells are proposed along both the north and east boundaries. The BLM is initiating a study to determine a leasing policy for the WSA and adjoining area which will protect the Rock Creek ACEC and the Lake Mountain-Graphite Hollow elk winter range.

There is currently no production of leasable minerals in the WSA. There are a few expired phosphate claims and the potential for development is low and uneconomical.

The southern and western portion of the WSA have zones of building stone which have local commercial value. These areas have been closed since the establishment of the WSA.

Impact on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the alternative considered including designation or nondesignation of the entire area as wilderness.

TABLE 4
Comparative Summary of Impacts by Alternative

RESOURCE AFFECTED	PROPOSED ACTION (NO WILDERNESS)	ALL WILDERNESS ALTERNATIVE
Wilderness Values	Moderately adverse impacts would occur to wilderness values. Nondesignation would preserve some of the wilderness character of the WSA because within the ACEC, essentially all the wilderness characteristics would remain intact. The 8,706 acres outside of the ACEC would lose most of their wilderness character, due to the adverse impact on the natural character of the area resulting from anticipated oil and gas activities.	Minor adverse impacts would occur to wilderness values, due to anticipated oil and gas activities in the area outside of the ACEC. Wilderness designation of the WSA would provide more complete protection of the Rock Creek drainage and the lands surrounding it. It would add a unique and sensitive species to the National Wilderness Preservation System.
Recreation Opportunities and Use	Minor beneficial impacts would occur to recreation opportunities. Hunting opportunities would increase. The elimination of off-road vehicle use within the ACEC would provide escape areas for wildlife. Motor vehicle use outside the ACEC would be limited to existing roads and trails. A seasonal closure would also be enforced to protect wintering wildlife. Both of these actions would have an adverse effect on off-road vehicle enthusiasts.	Motorized recreation use would be prohibited and there would be a loss of visitor days within the WSA. This may be somewhat offset by an increase in hunter access and quality of experience.
Wildlife Populations	Beneficial impacts would occur to wildlife. Habitat for elk, deer, moose, bear, raptors, and small game would be protected within the ACEC. The off-road vehicle restriction decisions would greatly reduce impacts to wildlife on the remainder of the area. The establishment of the winter closure area for the elk winter range would have a long term beneficial impact on the elk herd in that area. The opportunity to include one of the best existing drainages containing the sensitive Colorado River cutthroat trout within the National Wilderness Preservation System would be lost.	Beneficial impacts would occur to wildlife in that the entire WSA would receive additional protection from disturbance. There would be some loss of wildlife management capability in that management actions in the Rock Creek ACEC would be restricted. Projects such as protecting springs by fencing would be restricted.
Mineral Exploration and Production	There would be no impact on the mining of decorative building stone in the established Common Use Area for moss rock building stone. There would be a beneficial impact to oil and gas operators in that additional lands would be available to exploration and development.	Wilderness designation would eliminate use of a portion of an established Common Use Area for moss rock building stone. There would be a negative impact on oil and gas operators since exploratory drilling would be limited.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: During the inventory phase, thirty-seven comments were received on the Lake Mountain WSA. Twenty-seven supported inclusion of the unit as a wilderness study area, while ten opposed the unit's inclusion. Those who favored wilderness believed that the WSA had all the prerequisite wilderness characteristics necessary to qualify for wilderness study. Those opposed cited a desire to see the area managed for uses other than wilderness, the area's high potential for natural gas, and retention of motorized access.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

RAYMOND MOUNTAIN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 32,936 acres

The Raymond Mountain WSA (WY-040-221) includes 32,936 acres of BLM-administered public land, 1,320 acres of state land, and 200 acres of private land (see Table 1). The WSA is located in the Sublette Mountain Range in southwestern Wyoming, approximately 60 miles south of Grand Teton National Park. The WSA is bounded on the north by State Highway 89 and on the east by the IGO Speedway, an access road to private lands. The west and south boundaries abut private lands (see Map 1).

The WSA is approximately 19 miles long and 4 miles wide at the widest point. The WSA has diverse vegetation and steep topography. It is forested over major portions of the WSA, interspersed with open parks. The southern end of the WSA gives way to big sagebrush stands and rock outcrops. Several creeks are located in the canyons of the WSA. Huff and Raymond creeks contain a pure strain of Bonneville or Bear River cutthroat trout. The area is important moose, deer, and elk habitat.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Rock Springs District Wilderness Environmental Impact Statement, filed in October 1990. There were two alternatives analyzed in the EIS, including All Wilderness, which is the recommendation of this report, and No Wilderness.

2. RECOMMENDATION AND RATIONALE -- 32,936 acres recommended for wilderness
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate 32,936 acres as wilderness. The recommendation of all wilderness is the environmentally preferable alternative as it would result in the least change to the natural environment. This recommendation for wilderness will further apply to any additional inholding acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and split estate tracts and provides additional information on acquisition of inholdings and split estate minerals.

The key considerations for recommending this WSA for wilderness designation were the exemplary quality of the area's wilderness values. Although the area contains a cherry-stemmed road and several minor intrusions, the topography and size of the WSA limit the impacts to the naturalness of the area. The intrusions, when viewed in the context of the entire WSA, are substantially unnoticeable.

Because of the steepness of the terrain and the forested nature of the WSA, an outstanding opportunity for solitude exists almost throughout the entire WSA. There are a multitude of secluded spots in which a person could escape the sights and sounds of others.

The WSA is well suited for a wide variety of recreation pursuits, including hiking, backpacking, fishing, hunting, horseback riding, mountain climbing, cross-county skiing, snowshoeing, photography, and sightseeing. Opportunities for these activities is considered outstanding.

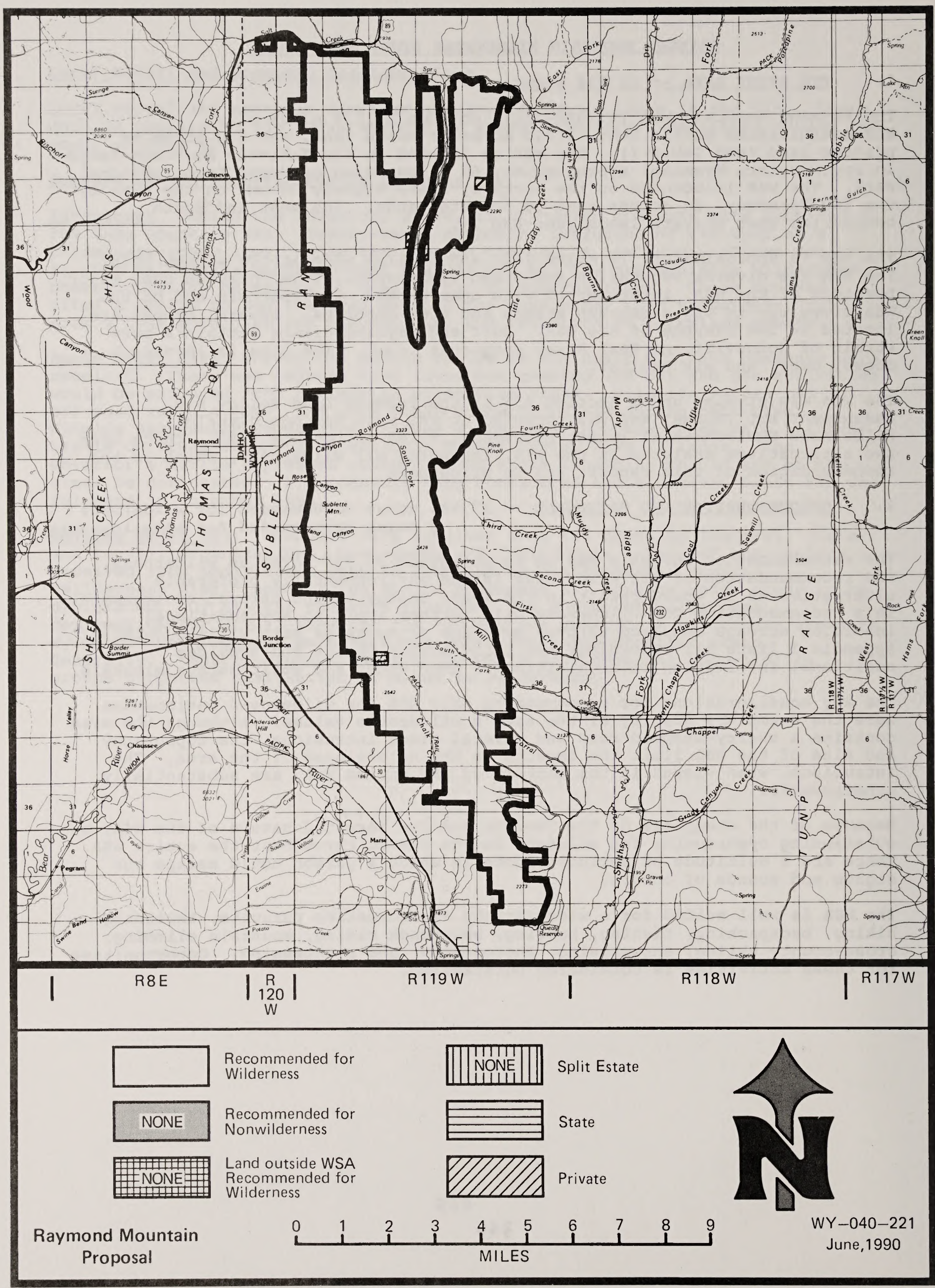

T 28 N
T 27 N
T 26 N
T 25 N
R8E
R 120 W
R119W
R118W
R117W
Recommended for Wilderness
NONE
Recommended for Nonwilderness
NONE
Land outside WSA Recommended for Wilderness
NONE
Split Estate
State
Private
0 1 2 3 4 5 6 7 8 9
MILES
Raymond Mountain Proposal
WY-040-221
June,1990

TABLE 1

Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	32,936
Split-estate (BLM surface only)	0
Inholding (State, private)	1,520
Total	34,456
Within the Recommended Wilderness Boundary	
BLM (within WSA)	32,936
BLM (outside WSA)	0
Split-estate (within WSA)	0
Split-estate (outside WSA)	0
Inholding (State, Private)	0
Total Recommended for Wilderness	32,936
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM Not Recommended for Wilderness	0
Inholding (State, private)	1,520

3. Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

A. Naturalness: The Raymond Mountain WSA is predominantly natural, with few human imprints. The area is extremely rugged and ranges from an elevation of 6,250 feet in the drainage bottoms to 9,313 feet. The WSA contains numerous peaks, ridges, canyons, creeks and wildlife. The WSA contains 1,500 acres of Douglas-fir, 1,200 acres of subalpine fir, and 1,700 acres of aspen.

The WSA contains several minor imprints of man including a communication site with access road; several small phosphate exploration sites; two abandoned well sites; a road which penetrates the WSA along Huff Creek to some private land; several two-track trails; and evidence of livestock trailing. These intrusions, when viewed in the context of the entire WSA, are essentially unnoticeable.

B. Solitude: Outstanding opportunities for solitude abound throughout the Raymond Mountain WSA. The steepness of the terrain and the accompanying vegetation contribute to providing secluded spots which would permit opportunities for solitude.

The Sublette Mountain Range forms the entire WSA creating an almost impenetrable barrier that promotes outstanding opportunities for solitude throughout the WSA. One could easily escape the rest of the world in this study area.

C. **Primitive and Unconfined Recreation:** The Raymond Mountain WSA, in combination with its relatively large size, diversity and ruggedness of terrain, contains outstanding opportunities for primitive and unconfined recreation. The primary recreation activity in the area is hunting moose, elk, deer and grouse. Primitive camping occurs along Raymond Creek, Huff Creek and in White Canyon. Hiking and backpacking occur in the area as well as nature study and sightseeing. Other recreational activities include fishing, trapping and snowmobiling.

D. **Special Features:** Wildlife is an important special feature in the area. The Thomas Fork watershed, which includes Huff and Raymond Creeks, has been designated as an Area of Critical Environmental Concern. This area supports the Bear River Cutthroat trout and provides crucial winter habitat for moose, elk, mule deer, and numerous other wildlife species. The scenic quality is outstanding due in part to the interaction of the mountainous landforms, geologic outcrops, diverse vegetation, open parks and waterways.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and Landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). This WSA contains the Rocky Mountain Forest Province/Douglas-fir Forest ecosystem. This ecosystem is already represented in the NWPS by 18 designated wilderness areas. This information is summarized in Table 2.

TABLE 2

ECOSYSTEM REPRESENTATION

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNW				
	NATIONWIDE			
Dry Domain/Rocky Mountain Forest Province/Douglas-fir Forest	18	1,349,971	23	199,380
	WYOMING			
	9	851,433	7	72,146

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The WSA is with a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a day's drive of the population centers.

TABLE 3

WILDERNESS OPPORTUNITIES FOR RESIDENTS
OF MAJOR POPULATION CENTERS

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City - Ogden	18	1,925,081	151	5,705,086
Provo - Orem	21	2,225,116	133	5,451,742

3. **Balancing the geographic distribution of wilderness areas:** The Raymond Mountain WSA would not contribute to balancing the geographic distribution of areas within the NWPS. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness include: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (14,715 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (4,942 acres), and the Twin Peaks Wilderness (6,178 acres).

Manageability (The area must be capable of being effectively managed to preserve its wilderness character)

The WSA is manageable as wilderness. There are two sections and one small parcel of State land (1,320 acres) and two parcels of privately owned land (200 acres with one owner) inside the boundary. All parcels are used solely for grazing, and based on the analysis of mineral occurrence potential and steep terrain, development is unlikely to occur. It is assumed that after designation, the BLM and the State will conduct a mutually beneficial exchange of land with the BLM acquiring the State inholding and the State acquiring lands outside the WSA. The same is true of the private lands. Road access to the private inholding is not anticipated if an exchange of these can not be made. The single use of these lands (grazing) and the steep terrain is such that access to them is considered unlikely; one small phosphate lease (189 acres) on the west boundary in the WSA is not expected to be developed because of the steep terrain and the abundance of phosphate mines in the area. Also, phosphate prices are low and there is very little information on the continuity and quality of this formation. Thus, the likelihood of development is low.

Energy and mineral resources values

Recoverable reserves were estimated from the "Update on the Wyoming-Idaho-Utah Over Thrust Belt; Joint Meeting of the Wyoming Geological Association, Wyoming Geological Survey and the Department of Geology at the University of Wyoming." The potential for accumulations of natural gas in the Raymond Mountain WSA is rated high. However, two gas wells were drilled in the WSA (1978 and 1982) and tested noncommercial quantities of gas. They were henceforth plugged and abandoned. Presently there are no pre or post FLPMA oil and gas leases in the WSA. The WSA is rated low as a potential producer of coal although it probably exists in four sections.

A phosphorus formation exists inside as well as outside the WSA and some mining has occurred outside. No phosphate mining has occurred inside the WSA. The phosphate lease is due for readjustment in 2004. There is no evidence of commercial quantities of sodium or potassium in the WSA, however a lease for salt exists just north of the WSA. About 4 to 5 tons of salt were removed from the lease site and sold locally. No commercial quantities of bentonite or copper are known to exist, however, these locatables do exist in insignificant quantities in the WSA.

Although gravel is located in accumulation in the WSA, restricting access and use of this resource would not cause a shortage or hardship since it exists in sufficient quantity outside the WSA.

Impacts on Other Resources

The following comparative impact summary (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
Comparative Summary of Impacts by Alternative

Issue Topic	All Wilderness	No Wilderness (No Action)
Wilderness Values	Naturalness retained in the entire WSA.	Naturalness lost on 345 acres.
	Solitude retained in the entire area.	Solitude lost on 345 acres.
	Opportunities for primitive and unconfined recreation retained in the entire WSA.	Opportunities for primitive and unconfined recreation retained in the ACEC but lost in the rest of the WSA.
	Special features, including habitat for the Bonneville cutthroat trout and the ACEC, retained in the entire WSA.	Special features, including habitat for the Bonneville cutthroat trout and the ACEC, retained in the entire WSA.
Minerals	An estimated 39 BCF of natural gas would be foregone.	An estimated 39 BCF of natural gas would be recovered.
Recreation	Habitat protection in the ACEC would benefit big game hunting and fishing. Current use of 800 hunter-days annually and 400 visitor-days annually for fishing maintained.	Hunter use in the WSA reduced by 25 percent in the long-term.
	No change in opportunities for primitive recreation.	Opportunities for primitive recreation retained in most of ACEC but would be lost in the rest of the WSA.
Livestock Grazing	Occasional inconvenience to livestock operator due to restrictions on motorized vehicle use.	No effect on livestock grazing.
Water Quality	Water quality would improve slightly. Elimination of motor vehicles would stabilize streambanks.	Increase water quality problems in the short term. Water quality would return to current levels as reclamation takes place. Soil compaction and vegetation loss would increase runoff and erosion.
	Water quality in the ACEC would be improved. and help maintain water quality.	Restriction in the ACEC would protect major streams
Timber Production	Forest resources would be protected and would not be managed as an economic resource.	Timber resources would be foregone on 245 acres affected by oil and gas activities. Some timber harvesting would occur, but not in the ACEC. Regional timber production would not be increased.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of the WSA-Specific Public Comments

Inventory: During February, 1979, BLM held open houses and public meetings in cities and towns across the district. Initial inventory decisions were proposed in February, 1979, followed by a 90-day comment period. Decisions on units to be inventoried were issued in July 1979. The final study areas were identified in November, 1980.

Draft EIS: 565 comments were received during the public review period of the draft. A public hearing was held in March 1983, in Rock Springs. Twenty-eight witnesses testified: two submitted written comments. All comments and testimony were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: 455 comments were received from agencies, (State, federal, and local), organizations, businesses, and individuals. Three public hearings were held in Rock Springs (January 12, 1989), Lander (January 5, 1989), and Cokeville (January 12, 1989). The hearings were attended by approximately 130 people. Thirty-three people testified.

The Sierra Club sent a "Wilderness Alert" to their members requesting that they support the five WSA's recommended and that they encourage BLM to recommend all the acreage under study as suitable for wilderness designation. Many letters from individuals commented that way.

Most comments were from those who supported wilderness designation for all 13 WSA's (74%) or from those who opposed designation of any additional wilderness areas in Wyoming (23%). Comments from individuals supporting wilderness designation came from individuals in 39 states. Most comments from individuals who opposed wilderness designation came from within Wyoming.

BUFFALO HUMP WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 10,300 ACRES

The Buffalo Hump WSA (WY-040-306) includes 10,300 acres of BLM administered public lands, with no private or state inholdings (see Table 1). The area is located in north-central Sweetwater County about 30 miles north of Rock Springs. The WSA is bounded on the east by the abandoned U.S. Steel Railroad bed, on the north by the 15-Mile Spring Road, on the west by the Buffalo Hump Road and Sections 30 and 31, T. 24 N., R. 105 W. The southern boundary is an unnamed two-track road running east to west north of Chicken Springs (see map 1).

The primary topographic relief consists of many sand valleys, blowouts, dunes, and hills occurring in the southern and eastern portions of the WSA. Individual sand dunes exceed heights of 100 feet. Interdunal areas on the northern and western extremities contain ponds, grass covered marshes, and playas. The vegetation in the WSA ranges from climax stands of big sagebrush and greasewood on the north and west, to active sand dunes and meadows on the east and south. The area contains valuable big game habitat (elk, mule deer, and pronghorn antelope). Approximately 3,072 acres of the 41,400 acre Greater Sand Dunes Recreation ACEC are contained within the Buffalo Hump WSA.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Big Sandy Management Framework Plan and the Rock Springs Wilderness Environmental Impact Statement (EIS), filed in September 1990. Three alternatives were analyzed, including all wilderness, partial wilderness and no wilderness.

2. RECOMMENDATION AND RATIONALE --

6,080 acres public land recommended for wilderness.
4,220 acres public land recommended for non-wilderness.

The recommendation for this WSA is to designate 6,080 acres of public land as wilderness and release 4,220 acres of public land for uses other than wilderness. All wilderness is the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

The exemplary quality of the area's wilderness values and maintaining the continuity of the Greater Sand Dunes in a pristine condition were key considerations in making this recommendation. Abandonment of the U.S. Steel Railroad track that separated the Buffalo Hump and Sand Dunes WSA enhanced the naturalness of this WSA. Because trains could no longer impair the viewshed, solitude and the natural dune, building process had been inhibited by maintenance of the track. The only evidence of man in the portion recommended for wilderness is the railroad bed.

The recreation values of this portion of the WSA are outstanding. Opportunities for hiking, backpacking, nature study, photography, hunting and rockhounding combine to offer a diverse recreation experience. This area is also part of the range of the only known herd of desert elk.

This WSA is essentially in a natural condition exhibiting an undisturbed sagebrush-grassland ecosystem intermingled with active sand dunes. Intrusions consist of five two-track trails and one seismograph line for a total of 5.5 miles; one segment of sand fence; and two dug livestock pit reservoirs. The two-track trails are faint, overgrown with vegetation, and dead end after short distances or connect with boundary roads. The livestock reservoirs are located along the southern boundary road. These intrusions are considered to have only minor impact on the integrity of the area.

The rails have been removed from the railroad bed which forms the eastern boundary of the WSA. The bed is about three to five feet above ground level. From a distance away, within the WSA, the gravel bed is not visible. When a visitor looks east from the WSA, the Sand Dunes WSA is what would be seen.

Due to the topographic relief and remoteness in the portion recommended for wilderness outstanding opportunities for solitude exist.

Ecological and cultural values are also found in the WSA. Ecologically, this area typifies a sagebrush-bunchgrass ecosystem featuring gently rolling, sagebrush-covered sand hills, with some active barren sand dunes. This area attracts wild horses, mule deer, a unique desert elk herd, large numbers of pronghorn antelope, and many species of birds. Raptors and coyotes are frequent visitors to the area. Reports of mountain lion sightings have been received.

The addition of this WSA to the National Wilderness Preservation System would complement the wilderness recommendation for the Sand Dunes WSA. Only one other wilderness area in the State is currently represented in the same ecosystem as this WSA. A wilderness designation would not conflict with other resource uses in the 6,080 acres recommended for such a designation. Grazing of the area will continue. Off-road vehicle (ORV) use has been restricted in the area for years. No pre-FLPMA leases exist in the WSA and unleased land in the area recommended for designation (6,080 acres) would not be leased. There has been very little industry interest in oil and gas in the WSA and probable recoverable reserves are estimated at zero. Estimated recoverable reserves is 53.5 billion cubic feet. Currently there is no oil and gas activity in the WSA and development is not expected.

The area not recommended for wilderness has numerous trails and two tracks and is completely out of the active dune field but does contain 397 acres of the ACEC. The wilderness values are present but are not of the exemplary quality noted in the portion recommended for wilderness. Most of this area consists of sagebrush on very small stabilized sand dunes.

Oil and gas leases would be offered in this area, however, stipulations would be placed on the leases to protect sage grouse leks and to restrict surface disturbance within 500 feet of live water.

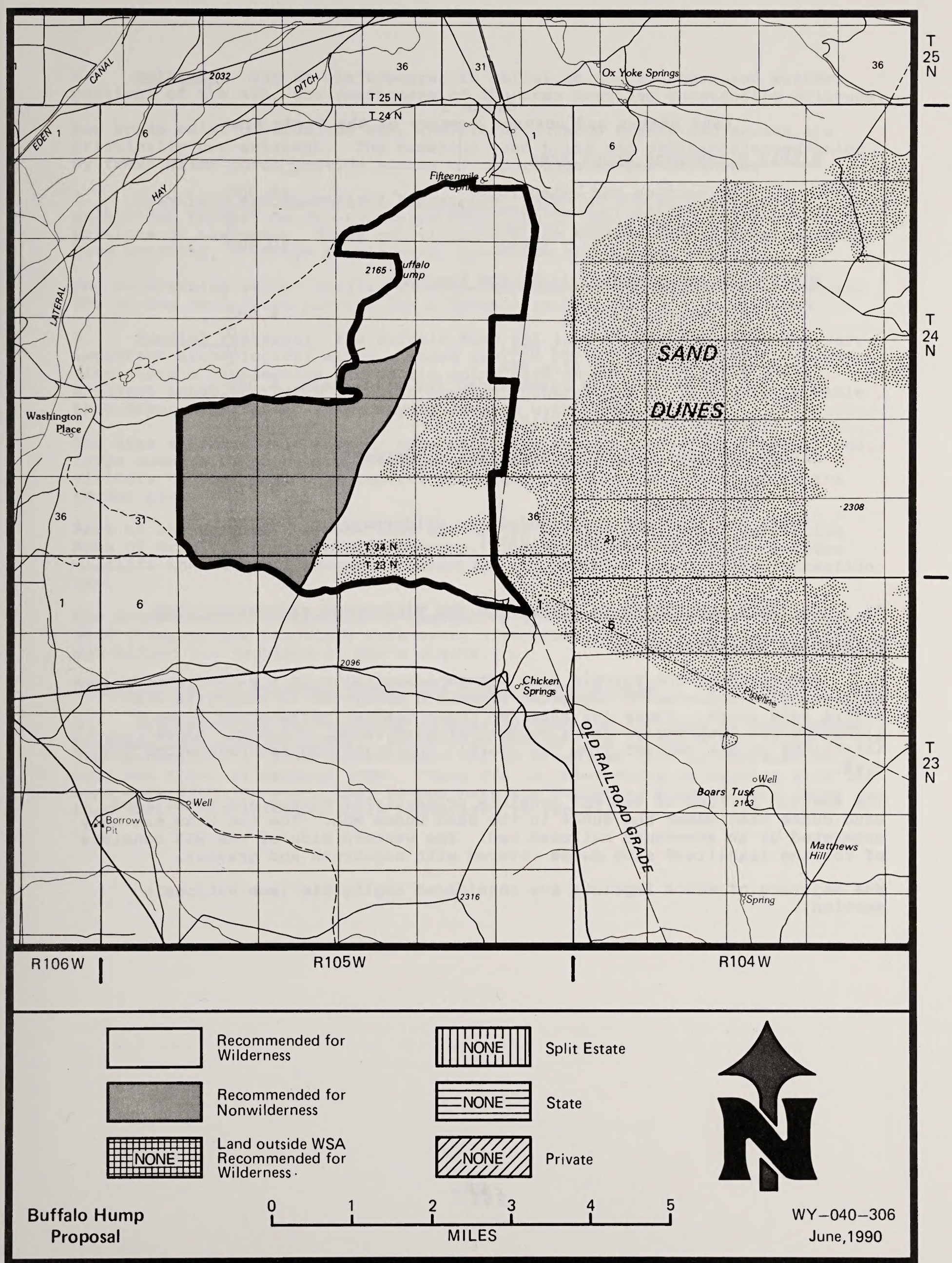

T 25 N
T 24 N
T 23 N
R106W
R105W
R104W
CANAL
EDEN
HAY
LATERAL
DITCH
2032
Ox Yoke Springs
Fifteenmile Spring
2165
Buffalo Hump
SAND DUNES
2308
Washington Place
T 24 N
T 23 N
2096
Chicken Springs
Pipeline
OLD RAILROAD GRADE
Well
Borrow Pit
Boars Tusk
2163
Matthews Hill
Spring
2316
Recommended for Wilderness
Recommended for Nonwilderness
Land outside WSA Recommended for Wilderness
NONE
Split Estate
State
Private
0 1 2 3 4 5
MILES
Buffalo Hump Proposal
WY-040-306
June, 1990

Table 1
Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	10,300
Split-estate (BLM surface only)	0
Inholdings (State, private)	0
Total	10,300
Within the recommended wilderness boundary	
BLM (within WSA)	6,080
BLM (outside WSA)	0
Split-estate (within WSA)	0
Split-estate (outside WSA)	0
Total BLM land recommended for wilderness	6,080
Inholdings (State, private)	0
Within the area not recommended for wilderness	
BLM	4,220
Split-estate	0
Total BLM land not recommended for wilderness	4,220
Inholdings (State, private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Buffalo Hump WSA is essentially in a natural condition exhibiting an undisturbed sagebrush-grassland ecosystem intermingled with active sand dunes. There are some two-track trails, seismograph lines, livestock pit reservoirs, and a segment of sand fence. However, these intrusions do not detract from the overall integrity and naturalness of the area.

The eastern portion of the WSA consists primarily of moving and stabilized sand dunes that match the dunes in the Sand Dunes WSA. The two WSAs are only separated by an abandoned railroad bed. The western side of the WSA consists of rolling stabilized sand dunes covered with sagebrush and grasses.

The majority of man's imprints are considered negligible (see Rationale section).

B. **Solitude:** Due to the topographic relief in the southern and eastern portions of the WSA, the remoteness of the area provides outstanding solitude.

Few roads exist outside the WSA, therefore, outside sights and sounds are practically non-existent. The numerous sand hills and overhangs accompanied by fresh water ponds provide scores of opportunities for solitude.

C. **Primitive and Unconfined Recreation:** Most of the primitive and unconfined recreation opportunities are found in the eastern and southern portions of the unit. These activities include hiking, backpacking, camping, bird watching, wildlife photography, horseback riding, and hunting.

The outstanding scenic quality of this WSA enhances the recreational values. The moving sand dunes provide for a dynamic rather than static viewshed.

D. **Special Features:** The Buffalo Hump WSA lies within a mile of two very important archeological sites. These are the Finley site and the Eden-Farson site where a distinctive projectile point gave evidence of one of man's earliest inhabited sites in North America. Therefore, it is highly probable that other significant sites may be located within the WSA.

The area attracts wild horses, mule deer, the unique herd of desert elk, and large numbers of pronghorn antelope. Raptors and coyotes are frequent visitors to the area, plus reports of cougar use have been received in the recent past.

Part of the Buffalo Hump WSA lies within the Greater Sand Dunes Recreation Area of Critical Environmental Concern. The ACEC management plan provides wildlife and cultural resource protection and promotes appropriate recreation use.

The greatest special feature of the WSA is the dunes themselves. Pure white sand changing the landscape with every wind storm, building 100 foot drifts and hiding all imprints of man's visits.

Diversity in the National Wilderness Preservation System

A. **Expanding the Diversity of Natural Systems and Features as Represented by Ecosystems and landforms:** Wilderness designation of the 6,080 acres of the WSA recommended in this report would add an ecosystem that is represented by only one other wilderness area. There are 16 other WSA;s in Wyoming with the same ecosystem, however, they do not have the number or size of sand dunes as this WSA. This information is summarized in Table 2.

TABLE 2

Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
		NATIONWIDE		
Dry Domain/ Western Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
		WYOMING		
	1	67,062	16	230,035

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Day's Driving Time (Five Hours) of Major Population Centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

TABLE 3

Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Area		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. **Balancing the Geographic Distribution of Wilderness Areas:** The Buffalo Hump WSA would not contribute to balancing the geographic distribution of areas within the preservation system. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (14,715 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add the sand dune ecosystem and diversify representation in the NWPS.

Manageability: (The area must be capable of being effectively managed to preserve its wilderness character)

The portion of the WSA recommended for wilderness is manageable as wilderness. There are no pre-FLPMA leases. Mineral development is not likely and industry interest is low. Negotiations to obtain the state and private inholdings would be undertaken to increase the manageability should these be included in wilderness designation.

The part of the WSA not recommended for wilderness is also judged to be manageable as wilderness.

Energy and Mineral Resource Values

The U.S.Geologocal Survey and the Bureau of Mines prepared a mineral assessment for the Buffalo Hump WSA in 1990 (U.S. Geological Survey Bulletin 1757-G). That assessment is the primary source for the following discussion.

The most probable recoverable reserves estimated to exist within the 10,300-acre WSA is zero. The maximum recoverable reserves estimated to exist in the WSA is 53.5 billion cubic feet (BFC) of gas. The maximum recoverable reserves was calculated from figures in the "Wyoming Geological Association Guidebook, Greater Green River Basin Symposium." In that study, it was estimated there is 3.32 BFC of recoverable gas per 640 acres explored in the Green River Basin (15,046 square miles) in southwestern Wyoming. This amounts to total recoverable reserves in the Green River Basin of about 50,000 BFC of gas. The Green River Basin includes almost all of Sublette County, significant portions of Sweetwater and Uinta Counties, and parts of Lincoln, Carbon, and Fremont counties.

There are no pre-FLPMA leases. There is one dry hole within the WSA. It is located in the SE 1/4, NW 1/4 of Section 22, T. 24 N., R. 105 W. The well tested the Ericson Member of the Mesa Verde Formation to a depth of 7,997 feet. No results were reported in this 1971 wildcat test and the well was subsequently abandoned.

There are no known locatable minerals, therefore, no activity is expected. Mineral extraction for salables would be allowed subject to surface protection and rehabilitation requirements to protect other resources. However, no such activity is anticipated because the salable mineral of concern in the WSA is sand, and there are ample reserves available from existing sources to meet present and anticipated future demands. No activity related to locatable or leasable minerals is anticipated because there are no known locatable or leasable minerals in the WSA.

Impacts on Other Resources

The following comparative impact table summarizes the effects on pertinent resources for all the alternatives considered including designation or non-designation of the entire area of wilderness.

TABLE 4

COMPARATIVE SUMMARY OF THE IMPACTS BY ALTERNATIVE

Issue Topics	Proposed Action Partial Wilderness Alternative	All Wilderness Alternative	No Wilderness No Action Alternative
Wilderness Values	6080 acres would be designated.	10,300 acres designated.	Wilderness values would be at risk.
Mineral Resources	6080 acres would be withdrawn from mineral leasing.	10,300 acres withdrawn from mineral leasing	Entire WSA would be open to mineral leasing.
Recreation and visual resources	No ORV use on 6,080 acres. Visual Resource Management class would elevate to Class I in area.	No ORV use on 10,300 acres. Visual Resource Management Class would elevate to Class I.	VRM Class would remain at III. ORV use would be allowed on existing roads and trails.
Vegetation/ water/soils	Little to no effect.	No effect	Some impact to vegetation on roads and trails.
Wildlife Habitat and Populations	Reduced ORV use would benefit wildlife. no change outside designated area.	No adverse effect	Increased vehicular use could cause additional stress on wildlife.
Livestock Grazing	No effect.	No effect	No effect

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: During the inventory phase, nineteen comments were received on the Buffalo Hump WSA. Seven favored inclusion of the unit as a wilderness study area and eleven were opposed. One comment addressed the Wyoming Department of Agriculture's noxious weed control of wilderness study areas. The submissions could not be used to evaluate wilderness criteria. Some alluded to intrusions, but did not include specific information, and some addressed recreational concerns.

Initial Draft EIS: During formal public review of the initial draft EIS, a total of 184 written and 25 oral comments were received. The oral comments were received during a public hearing held at Rock Springs. In general, 186 comments favored wilderness designation and 23 opposed wilderness designation. The comments in favor of wilderness general felt the area would be a valuable addition to the wilderness system, especially in conjunction with the Sand Dunes WSA. Those opposed generally were concerned with limitations for off-road vehicle use of the area.

Of all comments received, two were from federal agencies, six were from state agencies, and none were from local governments. Of the Federal agencies, the National Park Service supported the all wilderness alternative. The Bureau of Mines opposed wilderness designation because of oil and gas development conflicts. The Governor of Wyoming took no position on wilderness designation at this time, but expressed concern about adverse impacts to State lands contained within and bordering WSAs. Of the state agencies, the Wyoming Game and Fish Department and State Senator Jack Pugh supported the all wilderness alternative. The Geological Survey of Wyoming, The Wyoming Oil and Gas Commission, the State's Department of Agriculture, and Wyoming State Engineer supported the no wilderness alternative.

Revised Draft EIS: Because of critical changes in the status of oil and gas leases in the WSAs, and because of public comment, a revised draft EIS was prepared and issued for public review. During the formal public review of this document, 422 written comments and 33 oral comments were received. The oral comments were received during the course of three public meetings held in Rock Springs, Lander, and Cokeville. In general, 337 comments favored wilderness designation, 105 opposed wilderness designation, and 13 took no position.

Of all comments received, 6 were from federal agencies, 9 were from state agencies, and none were from local governments. Of the federal agencies, the National Park Service generally supported the all wilderness alternative. The Soil Conservation Service, Environmental Protection Agency, Bureau of Mines and Fish and Wildlife Service did not state a formal position. The Air Force took no formal position but expressed concern about air space restrictions and the impact on training flights. The Governor of Wyoming again took no formal position but would review impacts on state lands and resources. Of the state agencies, the Wyoming Game and Fish Department and State Legislator Chris Plant supported the all wilderness alternative. The Geological Survey of Wyoming supported the no wilderness alternative. The Water Development Commission, Public Service Commission, and Forestry Division took no formal position as long as their respective resources and/or facilities were not adversely impacted and development and management could take place.

SOUTH PINNACLES WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 10,800 Acres

The South Pinnacles WSA (WY-040-313) includes 10,800 acres of BLM-administered public lands, including 26 acres of split estate land (see Table 1). The WSA is located in northeastern Sweetwater County, 30 miles northeast of Rock Springs, Wyoming. The area is bounded on the east, north, and west by unnamed roads and on the south by County Road 4-15 (see Map 1).

The WSA contains mostly flat topography, with an exposure of broken rimrocks and ridges running west to east. Rough rocky crags and unusual escarpments are prominent in this rimrock area. Greasewood communities occupy the draws while big sagebrush and Nuttall's saltbush dominate the open areas.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Rock Springs District Wilderness Environmental Impact Statement finalized in 1990. There were two alternatives analyzed in the EIS including All Wilderness and No Wilderness, which is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE -- 0 acres recommended for wilderness
10,800 acres recommended for nonwilderness

The recommendation for this WSA is to release 10,800 Federal acres for uses other than wilderness (see Map 1). All Wilderness is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

In recommending this area for nonwilderness, the conflicts between wilderness and natural gas production were of primary concern. The area has high potential for the discovery of natural gas and condensate. The total recoverable reserves estimated to exist within the WSA are 24.8 billion cubic feet (BCF) of natural gas and 902,134 barrels (BBLS) of condensate. A field of 17 wells is projected for development within the WSA boundary.

The other principal factor in recommending nonwilderness for this WSA was the lack of exemplary wilderness values, particularly primitive and unconfined recreation. BLM's intensive inventory noted that opportunities for primitive and unconfined recreation were not outstanding; the values that do exist lie mainly in the rimrock portion of the WSA. Thus, the extent of the opportunities is limited. The most notable recreation activity in the WSA is nature photography. Other opportunities for recreation are not considered to be outstanding.

Outstanding opportunities for solitude can only be found in the rimrock area of this WSA. Opportunities for solitude in other portions of the WSA are limited primarily due to the boundary roads that surround the WSA.

South Pinnacles Proposal

WY-040-313
JUNE, 1990

TABLE 1

LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	10,800
Split Estate (BLM Surface Only)1/	0
Inholdings (State, Private)	0
Total	10,800
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split Estate (Within WSA)	0
Split Estate (Outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area not Recommended for Wilderness	
BLM	10,800
Split Estate	0
Total BLM Land Not Recommended for Wilderness	10,800
Inholdings (State, Private)	0

1/ Split estate lands are defined as those lands with Federal surface and non-Federal subsurface minerals.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The South Pinnacles WSA is essentially natural in character. It contains mostly flat topography, with an exposure of broken rimrocks and ridges. Rough rocky crags and unusual escarpments are prominent in this rimrock area.

There are some seismic trails, two-track trails, and one abandoned drill site but these are relatively faint and obscure. Overall, most of the WSA shows very few signs of human activity and the intrusions do not detract from the natural character of the area.

B. **Solitude:** The rimrock area of the South Pinnacles WSA provide outstanding opportunity for solitude. The numerous pockets and small draws provide an excellent opportunity to avoid the sights and sounds of other people. Other opportunities are limited due to the boundary roads.

C. **Primitive and Unconfined Recreation:** Primitive and unconfined recreation opportunities do exist mainly in the rimrock portion of the WSA. These include wildlife observation and photography, rockhounding, horseback riding, hiking and backpacking, and observation and photography of the many geologic ecosites within the rimrock area.

D. **Special Features:** There are no special features identified in this WSA.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the NWPS. The Wyoming Basin Province Sagebrush Steppe ecosystem is represented by one designated wilderness area (Cloud Peak). Several other WSAs or portions thereof are recommended for wilderness including Adobe Town, Honeycomb Buttes, Sand Dunes, and Oregon Buttes that contain this ecosystem. This information is summarized in Table 2.

TABLE 2

ECOSYSTEM REPRESENTATION

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
NATIONWIDE				
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
WYOMING				
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The South Pinnacles WSA is within a day's driving time of two major population centers--Salt Lake City-Ogden and Provo-Orem. There are currently twenty-one wilderness areas and three primitive areas within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

TABLE 3

WILDERNESS OPPORTUNITIES FOR RESIDENTS
OF MAJOR POPULATION CENTERS

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City Ogden	18	1,925,081	151	5,705,086
Provo - Orem	21	2,225,116	133	5,451,742

C. **Balancing the geographic distribution of wilderness areas:** The South Pinnacles area would not improve the balance of the geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness include: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (35, 014 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (13,109 acres), and the Twin Peaks Wilderness (10,749 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation in the NWPS.

Manageability (The Area Must Be Capable of Being Effectively Managed to Preserve Its Wilderness Character)

The South Pinnacles WSA is manageable as wilderness. Manageability would be difficult because of the area's accessibility by off-highway vehicles. Lack of physical barriers and remote location would make it difficult to protect or defend this area against ORV use.

Energy and Mineral Resource Values

Leasable minerals known to occur in the WSA include oil and gas and because their potential for discovery is high, it is an area of industry interest.

The total recoverable reserves estimated to exist within the 10,826 acre WSA is 24.8 billion cubic feet (BCF) of natural gas and 902,134 barrels (BBLS) of condensate.

There are no pre-FLPMA leases in the WSA. No other mineral resources are known to exist in the WSA.

Impacts on Other Resources

The following comparative impact table summarizes the effects on pertinent resources for all the alternatives considered including designation or non-designation of the entire area as wilderness (see Table 4).

Table 4
Comparative Summary of the Impacts by Alternative

Issue Topics	All Wilderness	Proposed Action (No Wilderness/No Action)
Wilderness Values	Wilderness values would be retained in the entire WSA.	Wilderness values would be lost for the long-term in the entire WSA.
Minerals, Oil, and	Estimates of 24.8 BCF of natural gas ($2 million) and 902,134 BBLS of condensate ($1 million) could possibly be foregone.	Entire area open to mineral entry. Estimates of ($2 million) and 902,134 BBLS of condensate ($1 million) could possibly be recovered. Success ratio for wells is relatively low.
Wildlife Habitat and Populations	No effect on wildlife.	Moderate adverse impacts would occur to wildlife due to disturbance by oil and gas activity. Antelope are the most abundant big game but adaptable to development. Seasonal, stress-related impacts would be mitigated. Big game numbers would not be affected.
Vegetation/Water/ Soils	No adverse impacts.	Moderately adverse impacts would occur to soils and vegetation and minor adverse impacts would occur to water due to oil and gas activity.
Recreation Opportunities	Hunter use would be reduced from about 25 to 5 hunter-days annually due to elimination of motorized vehicles. Sightseeing would also be reduced. No change in recreation opportunities in the region.	No effect on recreation opportunities.
Livestock Grazing	No effect on grazing use. Some additional costs to livestock operators due to restriction on vehicular access.	No effect on grazing use.

Local, Social, and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Public Comments

Inventory: Three comments, all from Wyoming, were received. The comments supported inclusion of the unit as a wilderness study area, noting that the unit offered outstanding scenic values and that intrusions in the area were minor and would not detract from the unit's wilderness characteristics.

No comments were received on this WSA during the MFP comment period.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

SAND DUNES WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 27,109

The Sand Dunes WSA (WY-040-307) is located in north-central Sweetwater County about 13 miles southeast of Farson. The WSA contains 27,109 acres of BLM administered public land, including 600 acres of split estate land, 640 acres of state land, and 160 acres of private land (see Table 1). Acreage figures in this report and the final EIS differ from the original report figures published in 1981. These differences are the result of a change of ownership and the identification of split estate. The WSA is bounded on the west by the abandoned U. S. Steel Railroad bed that separates this WSA and the Buffalo Hump WSA, on the north by an unnamed two-track beginning at Ox Yoke Springs, on the east by an old seismic two-track that skirts Essix Mountain, and on the south by the Boar's Tusk road (see map 1).

The WSA comprises a large part of the Killpecker Sand Dunes. The area contains large areas of barren active dunes with superb draws and valleys, wet meadow, greasewood, big sagebrush, and rabbit brush communities. A unique feature of the Sand Dunes are the eolian ice-cells that feed pools at the base of many of the large dunes. Boars's tusk is a prominent landmark just outside the southern edge of the area.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA), and was included in the Rock Springs District Wilderness Environmental Impact Statement (EIS), filed in October 1990. Four Alternatives were analyzed in the EIS: an all wilderness alternative, a no wilderness alternative, a partial wilderness alternative in which 16,280 acres would be recommended for wilderness and 10,829 acres released for other uses, and a second partial wilderness in which 21,304 acres would be recommended for wilderness and 5,805 acres released for other uses. The second partial wilderness alternative is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE -- 21,304 acres recommended for wilderness
5,805 acres recommended for nonwilderness

The recommendation for this WSA is to designate 21,304 acres (20,704 acres Federal and 600 acres split estate) as wilderness and release 5,805 acres for uses other than wilderness (see Map 1). A recommendation of all wilderness would be the environmentally preferred alternative as it would result in the least change to the natural environment in the long term. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts.

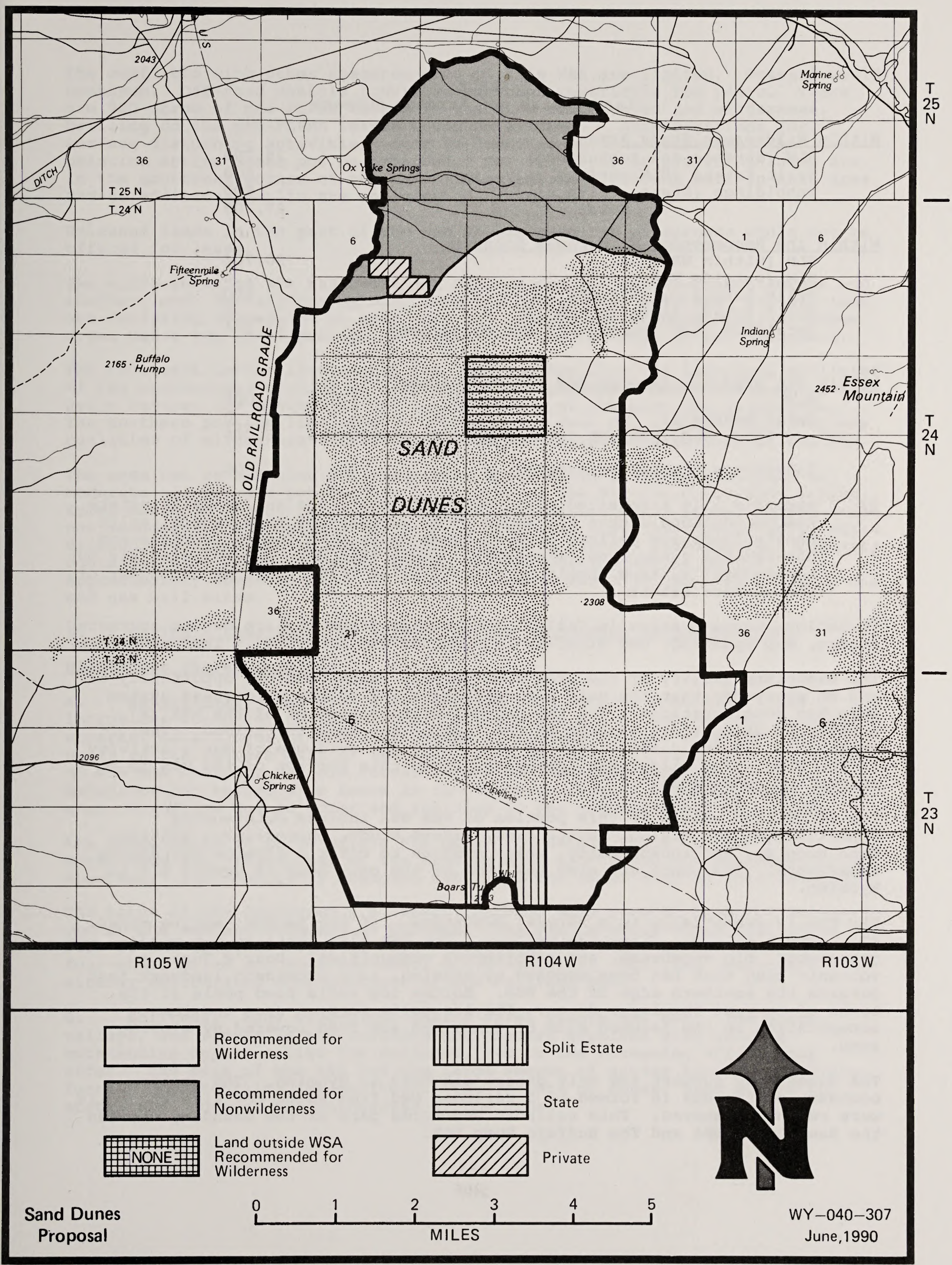

2043
U S
DITCH
36
31
T 25 N
T 24 N
Ox Yoke Springs
Marine Spring
1
6
Fifteenmile Spring
Indian Spring
2165 · Buffalo Hump
OLD RAILROAD GRADE
2452 · Essex Mountain
SAND
DUNES
2308
T 24 N
T 23 N
2096
Chicken Springs
Pipeline
Boars Tusk
R105 W
R104 W
R103 W
T 25 N
T 24 N
T 23 N
Recommended for Wilderness
Recommended for Nonwilderness
NONE
Land outside WSA Recommended for Wilderness
Split Estate
State
Private
N
0 1 2 3 4 5
MILES
Sand Dunes Proposal
WY–040–307
June, 1990

TABLE 1
Land Status and Acreage Summary

Within Wilderness Study Area	
BLM (surface and subsurface)	25,709
Split Estate (BLM surface only)1/	600
Inholdings (State, Private)1/	800
Total	27,109
Within the Recommended Wilderness Boundary	
BLM (within WSA)	20,704
BLM (outside WSA)	0
Split Estate (within WSA)1/	600
Split Estate (outside WSA)1/	0
Total BLM land recommended for wilderness	21,304
Within the area not recommended for wilderness	
BLM	5,005
Split Estate 1/	0
Total BLM land not recommended for wilderness	5,005
Inholdings (State, Private)1/	800

1/ Appendix 1 is a detailed description of inholdings and/or split estate tracts included within the study. For purposes of this report, split estate lands are defined only as those lands with federal surface and non-federal subsurface (minerals). Lands that have federal minerals but non-federal surface should be classified in this report by the owner of the surface estate.

Variations between acres in Table 1 and earlier documents are due to corrected errors, map updating, new minerals information and a change in land ownership.

The exemplary quality of the area's wilderness values and the opportunity to add an ecosystem that has only one representative to the wilderness system were key considerations. The naturalness of this portion of the WSA is considered exceptional because of the lack of man made intrusions. The constantly flowing dunes virtually eliminates any evidence of man's activity in the area. The wilderness inventory judged this portion of the WSA to be natural in appearance.

The recreation values of this portion of the WSA include outstanding opportunities for hiking, backpacking, nature study, photography, hunting, dune bugging, and rockhounding, which combine to offer a diverse recreation experience. The dunes are also the home of the only herd of desert elk in Wyoming.

The WSA is essentially in a natural condition. It has barren, active dunes with superb gullies, draws and valleys. The WSA also contains wet meadow, and greasewood, big sagebrush, and rabbitbrush communities. Boar's Tusk, a volcanic plug that has been exposed by erosion, is a prominent landmark just outside the southern edge of the WSA. Eolian ice cells feed pools at the bases of many of the large dunes. The ice cells form as snow and ice accumulation on the leeward side of dunes and are then covered by blowing sand.

The dunes help support the only desert elk herd in Wyoming. The western boundary of the WSA is formed by a railroad bed from which the ties and rails were recently removed. This railroad bed forms part of the boundary between the Sand Dunes WSA and The Buffalo Hump WSA.

The conflicts with other resource uses of this WSA are limited. Grazing would continue. Off-road vehicle (ORV) use has been restricted for years. There are 920 acres of pre-FLPMA leases in the area recommended for wilderness. Drilling on the pre-FLPMA leases would be allowed. Authorizations for surface disturbing activities would be conditioned to require that the pristine active dunes not be impaired. The 920 acres of pre-FLPMA lease are in the southeast corner of the WSA. There is one producing well in this area and no additional wells are anticipated.

Unleased lands in the part of the WSA recommended for wilderness would not be offered for lease.

The 5,005 acres of WSA that were not recommended (in the southeast corner and northern end) for wilderness were found to have a high potential for oil land gas (existing wells) and to have many ORV intrusions; manageability of these areas was a key consideration in formulating the decision to not recommend.

The southeast corner lies within the ACEC and contains the exemplary qualities of the recommended portion of the WSA; however, the presence of oil and gas wells reduces the aesthetics and manageability of the area for wilderness. The northern portion lies outside the ACEC and does not contain the exemplary qualities of wilderness that are found in the recommended portion of the WSA.

The area not recommended for wilderness designation is an area of high to moderate oil and gas potential. It is part of the Nitchie Gulch-Pine Canyon Known Geologic Structure (KGS). Oil and gas leasing would resume in the area not recommended for designation. It is estimated that there would be 10 wells drilled, resulting in approximately 70 acres of surface disturbance. Activity would probably be concentrated in the eastern portion of the WSA. Approximately seven to eight miles of new roads would be required to reach oil and gas well sites.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The WSA is essentially in a natural condition. The intrusions found in the WSA are considered minor and do not detract from the apparent naturalness of the WSA. These intrusions include three producing wells in the eastern part of the WSA, two abandoned well sites within 509 feet of the WSA boundary, an old corral in the southwestern part,and a deteriorating barbed wire fence in the northern part of the WSA. There are also intrusions due to motorized vehicles in the northern part of the WSA.

The large dunes in parts of the WSA make it possible for a visitor to experience the naturalness of the area because man-caused disturbances are not apparent. The constantly changing nature of the dunes adds to this feeling.

The rails of the abandoned U.S. Steel railroad were removed from the railroad bed at the western boundary of the WSA. The bed is about three feet above the rest of the original right-of-way. Currently the railroad bed is used by four-wheel drive and some two-wheel drive vehicles. Drifting sands have already obliterated some portions of the railroad bed.

B. **Solitude:** Many wind-blown basins exist within the WSA. The draws, valleys, and ridges in the northern and eastern sections also provide outstanding opportunities for solitude, due to the screening effect they offer. The size of the WSA and the large amount of active sand dunes create further opportunities for solitude. The variety of dunes, from active to stabilized, adds to the uniqueness of the area.

C. **Primitive and Unconfined Recreation:** Outstanding opportunities for primitive unconfined recreation are readily available. Hiking in the dunes is strenuous but can be a rewarding experience. Other activities include bird-watching, hunting, sightseeing, and photography.

Birds, including waterfowl, shorebirds, and killdeer, are relatively abundant in parts of the area. This provides an unusual opportunity for viewing and photography in nearby areas of the high desert.

The outstanding scenic quality of this WSA enhances the recreational values. The moving sand dunes provide for a dynamic rather than static viewshed.

D. **Special Features:** Ecologically, the most unique feature of the Sand Dunes WSA is the eolian ice cells that feed pools at the base of many large dunes. These are formed as snow and ice accumulate on the leeward side of the dunes and then are covered by blowing sand. These pools, or ponds, range in depth from a few inches to ten feet deep. Some being crystal clear and almost devoid of life, while others are muddy, murky, and alive with tadpoles, salamanders, insects, waterfowl, and various grasses and algae. The dunes help support the only desert elk herd in Wyoming.

The Sand Dunes WSA lies within a short distance of two very important archeological sites. These are the Finley site and the Eden-Farson site where a distinctive projectile point gave evidence of one of man's earliest inhabited sites in North America. Therefore, it is highly probable that other significant sites may be located within the WSA.

The area is home to wild horses, mule deer, elk, and large numbers of pronghorn antelope. Raptors and coyotes frequent the area, and there are reports of cougar use.

Part of the Sand Dunes WSA lies within the Greater Sand Dunes Recreation Area of Critical Environmental Concern. The ACEC management plan provides wildlife and cultural resource protections and promotes appropriate recreation use.

The greatest special feature of the WSA are the dunes themselves. White sands changing the landscape with every wind storm, building 100 foot drifts and hiding all imprints of man's visits.

Diversity of the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and Landforms:** Wilderness designation of the 21,304 acres of the WSA recommended in this report would add an ecosystem that is represented by only one other wilderness area. There are 16 other WSA's in Wyoming with the same ecosystem, however, they do not have the number or size of sand dunes as this WSA. This information is summarized in Table 2.

TABLE 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
		NATIONWIDE		
Dry Domain/ Western Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
		WYOMING		
	1	67,062	16	230,035

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Days Driving Time (Five Hours) of Major Population Centers:** The WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

TABLE 3

Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Area		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. **Balancing the Geographic Distribution of Wilderness Areas:** The Sand Dunes WSA would not contribute to balancing the geographic distribution of areas within the preservation system. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (14,715 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add an extensive sand dune ecosystem and diversify representation in the NWPS.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character)

The portion of the Sand Dunes WSA recommended as suitable for wilderness is manageable as wilderness. The oil and gas potential for this portion of the WSA is rated as moderate and is unleased. Most impacts caused by oil and gas development would be soil compaction and vegetation loss but would be minimal if mitigated properly on pre-FLPMA leases found in the area.

The boundary of the Sand Dunes WSA recommended as nonsuitable for wilderness may not be manageable as wilderness, depending on oil and gas development. This area is rated as moderate to high in oil and gas potential. It encompasses the southeastern and northern portions of the Sand Dunes.

Only two inholdings exist in the WSA and one of these is outside the area recommended for wilderness. A State section lies within the recommended area and it is assumed a mutually beneficial land exchange between the BLM and the State will transpire to make manageability of the section easier for wilderness.

The private inholding in the WSA that is outside the wilderness boundary lies very close to the WSA boundary (about 100 yards); therefore, access to this property, if ever needed, would not impact the WSA in a major adverse action. The inholding is also scheduled for exchange if the landowner is willing.

The railroad bed on the western boundary is expected to be barricaded, and, ORV travel on this route will be eliminated.

No other impacting actions including saleable minerals is anticipated in the WSA.

Energy and Mineral Resource Values

The U.S. Geologic Survey and the Bureau of Mines prepared two mineral assessments for the Sand Dunes WSA in 1987 (U.S. Geological Survey Bulletin 1757-A and 11757-G). Those assessments are the primary source for the following discussion.

Hydrocarbons are the most valuable potential mineral resource in the WSA. Producing oil and gas fields occur within, immediately east, and southeast of the WSA. The WSA contains 26,509 acres of public land with 560 acres of pre-

FLPMA leases held by production. The rest of the public lands in the WSA are not leased. The mineral estate is held by the State of Wyoming on 640 acres, and privately on 160 acres within the WSA.

There are three producing wells in the eastern part of the WSA. The high development potential area in the WSA includes a portion of the Nitchie Gulch Field (T. 23 N., R. 103 W.). The Pine Canyon field (Tps. 22 and 23 N., R. 103 W.) is immediately east of the Nitchie Gulch area, forming the Nitchie Gulch-Pine Canyon KGS. Cumulative production in the Nitchie Gulch field as of 1982 was 156,062 barrels (BBLS) of oil and 70.8 billion cubic feet (BFC) of gas; 21 wells were in production in the field during 1982 (Wyoming Oil and Gas Commission 1983). Pine Canyon cumulative production as of 1982 was 22,278 BBLS of oil and 12.9 BCF of gas, with 11 producers that year. The ultimate primary gas production for the 10,880-acre Nitchie Gulch field is estimated at 11.1 BCF from the Dakota Formation and 75.6 BCF from the Frontier Formation (Tartar, et al. 1979). The 2,124-acre Pine Canyon field is expected to produce 20.5 BCF from the Frontier/Dakota Formation (George 1979). Well spacing orders for the fields are one per 640 acres and one per 320 acres, respectively. No estimates are available for the Essex Mountain Unit east of the WSA (T. 24 N., R. 104 W.).

Reserves per 640-acre spacing in the Sand Dunes WSA are estimated to be 3.5 BCF of natural gas and 4,957 BBLS of condensate based on Frontier Formation production only. Recoverable reserves within the WSA are 145 BCF of gas and 205,320 BBLS of condensate. The average success ratio for wells drilled in the area is 54 percent and this is assumed to apply to the WSA. To indicate the relative perspective of these amounts to regional reserves, we have estimated the relative magnitude of regional reserves. These numbers are intended only to aid the reader in understanding the relative proportion of the reserves in the WSA to those which are potentially available elsewhere. The recoverable reserves for the Green River Basin as a whole (15,046 square miles) are approximately 50,000 BCF total.

There are no known locatable minerals, therefore, no activity is expected. Mineral extraction for salables would be allowed subject to surface protection and rehabilitation requirements to protect other resources. However, no such activity is anticipated because the salable mineral of concern in the WSA is sand, and there are ample reserves available from existing sources to meet present and anticipated future demands. No activity related to locatable or leasable minerals is anticipated because there are no known locatable or leasable minerals in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or non-designation of the entire area of wilderness.

TABLE 4

Comparative Summary of the Impacts by Alternative

Issue topics	No Wilderness No Action	All Wilderness Alternative	Small Partial Wilderness Alternative	Large Partial Wilderness Alternative
Impacts to wilderness resources.	Mineral development could significantly alter wilderness values. Also unrestricted ORV use would degrade wilderness values.	26,509 acres would be designated - all wilderness values would be protected.	16,280 acres would be designated - wilderness values in this acreage would be protected.	21,144 acres would be designated - wilderness values in this acreage would be protected.
Impacts to mineral resources.	Entire area would be open to mineral entry.	The area would be withdrawn from mineral leasing.	80% of the area would be withdrawn from mineral entry.	21,144 acres would be withdrawn from mineral leasing.
Impacts to recreation and visual resources.	Moderate adverse impacts would occur to recreation due to oil and gas development and increased vehicular disturbance to wildlife.	Entire area VRM Class I - non-resident hunters would need professional outfitter to hunt the area. West boundary road (RR Track) would be barricaded to restrict ORV use.	16,280 acres VRM Class I. 10,229 acres in VRM class II, III and IV. Outfitter needed by non-resident hunters on 16,280 acres. RR bed would be barricaded to ORV's.	21,144 acres VRM Class I - 5,365 acres in VRM Class II, III, and IV. Outfitter needed on 21,144 acres. RR bed would be barricaded to ORV's.
Impacts to vegetation/ water, soils.	Moderately adverse impacts would occur to vegetation due to oil and gas exploration and development.	Minor adverse impacts to soil and vegetation due to oil and gas exploration and development on pre-FLPMA leases turning stabilized dunes to active dunes.	Same as all Wilderness	Same as all Wilderness
Impacts to wildlife resources.	Moderately adverse impacts would occur to wildlife due to oil and gas exploration and development.	No impacts.	No impacts.	No impacts.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specified Public Comments

Inventory: During the inventory phase, forty comments were received on the Sand Dunes WSA. Nineteen favored inclusion of the unit as a wilderness study area and twenty were opposed. One took no position. Those who favored wilderness study believed that a wilderness designation would protect the scenic, undeveloped, and wildlife qualities of the area. Those opposed expressed concerns over conflicts with oil land gas production and wilderness management.

Initial Draft EIS: During formal public review of the initial draft EIS, a total of 560 written and 27 oral comments were received. The oral comments were received during a public hearing held at Rock Springs. In general, 190 comments favored more wilderness than proposed for designation, 7 supported the proposed action for designation, and 390 opposed wilderness designation. The comments in favor of wilderness general felt the area would protect the unique desert elk herd and other wildlife values and the outstanding scenic and natural wilderness values of the Sand Dunes. Those opposed generally were concerned with the loss of the area for recreational off-road vehicle use and about constraints to mineral development, especially oil and gas.

Of all comments received, 4 were from federal agencies, 7 were from state agencies, and none were from local governments. Of the Federal agencies, the National Park Service and Fish and Wildlife Service supported the all wilderness alternative. The Bureau of Mines opposed designation. The Corps of Engineers supported BLM' proposal of partial wilderness designation. The Governor of Wyoming took no position but continued to express concern over impacts to state lands contained within and bordering WSAs. State Senator Jack Pugh supported all wilderness designation. Of the state agencies, the Wyoming Game and Fish Department supported the all wilderness alternative. The Geological Survey of Wyoming, the Wyoming Department of Agriculture, the State Engineer and the Wyoming Oil and Gas Commission supported the no wilderness alternative.

Revised Draft EIS: Because of critical changes in the status of oil and gas leases in the WSAs, and because of public comment, a revised draft EIS was prepared and issued for public review. During the formal public review of this document, 422 written comments and 33 oral comments were received. The oral comments were received during the course of three public meetings held in Rock Springs, Lander, and Cokeville. In general, 337 comments favored wilderness designation, 105 opposed wilderness designation, and 13 took no position.

Of all comments received, 6 were from federal agencies, 9 were from state agencies , and none were from local governments. Of the federal agencies, the National Park Service generally supported the all wilderness alternative. The Soil Conservation Service, Environmental Protection Agency, Bureau of Mines and Fish and Wildlife Service did not state a formal position. The Air Force took no formal position but expressed concern about air space restrictions and

the impact on training flights. The Governor of Wyoming again took no formal position but would review impacts on state lands and resources. Of the state agencies, the Wyoming Game and Fish Department and State Legislator Chris Plant supported the all wilderness alternative. The Geological Survey of Wyoming supported the no wilderness alternative. The Water Development Commission, Public Service Commission, and Forestry Division took no formal position as long as their respective resources and/or facilities were not adversely impacted and development and management could take place.

APPENDIX 1
ESTIMATED COSTS OF ACQUISITION OF NON-FEDERAL HOLDINGS
WITHIN AREAS RECOMMENDED FOR DESIGNATION 1/

Legal Description (Prior to any subdivision)	Total Acreage	Number of Owners (If parcel has been subdivided) 2/		Type of Ownership by Estate (Federal, State Private, Other)	Presently Proposed for Acquisition (Yes, No)	Preferred Method of Acquisition (Purchase, Exchange, other)		Estimated Cost of Acquisition 3/
		Surface Estate	Subsurface Estate			Land Costs	Processing Costs	
Parcel #1 T.23N, R104W, Sec. 16	440	1	State	State	No	Exchange	64,000	75,000
Parcel #2 SESE, Sec. 6 N1/2 NW1/4, Sec. 8, T24N, R104W		1	Private	Private and Federal (coal)	No	Exchange	16,000	14,000

1/ The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to these included in the WSA. The estimates for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

2/ If a larger parcel as shown in the first column has been recently subdivided or is jointly owned, list the number of owners that would be involved in any acquisition negotiations.

3/ Where exchange is the proposed acquisition method, only administrative costs of processing the exchange should be shown. Land costs would not be applicable. Where direct purchase is proposed, an estimate of both the land costs and the processing costs should be provided.

ALKALI BASIN - EAST SAND DUNES WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - (12,800 Acres)

The Alkali Basin - East Sand Dunes WSA (WY-040-316/317) includes 12,800 acres of BLM-administered public lands, with no private or state inholdings (see Table 1). The area is located in east-central Sweetwater County about 21 miles northeast of Point of Rocks. The area is bounded on the north by an unnamed road and the northern edge of the active sand dunes, on the east by County Road 4-21, and on the south and west by an unnamed road, the checkerboard land ownership pattern and the southern edge of the active sand dunes. All state and private lands along the boundary are excluded from the WSA (see Map 1).

The Alkali Basin-East Sand Dunes wilderness study area includes a portion of the Killpecker Sand Dunes. These dunes traverse the unit from west to east. The area also comprises a remnant of the Red Desert within the Great Divide Basin. The sand dunes themselves present a rolling topography and the draws and ridges of Alkali Creek provide topographic relief. Vegetation is limited to big sagebrush and bunchgrass covered plains between sand dunes.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Rock Springs District Wilderness Environmental Impact Statement filed in October 1990. There were two alternatives analyzed in the EIS including All Wilderness and No Wilderness, which is the recommendation in this report.

2. RECOMMENDATION AND RATIONALE -- 0 Acres Recommended for Wilderness 12,800 Acres Recommended for Nonwilderness

The recommendation for this WSA is to release all 12,800 acres for uses other than wilderness. The All Wilderness Alternative is considered to be the environmentally preferable alternative as it would result in the least change from the natural environment over the long term. The recommendation for this WSA would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

In recommending this area for nonwilderness, the conflicts between wilderness and natural gas production were of primary concern. The area has potential for the discovery of natural gas and condensate. The total recoverable reserves estimated to exist in the WSA are 73.1 BCF of natural gas and 71,238 barrels of condensate. Twenty natural gas wells are projected for development over the long term within the WSA boundary.

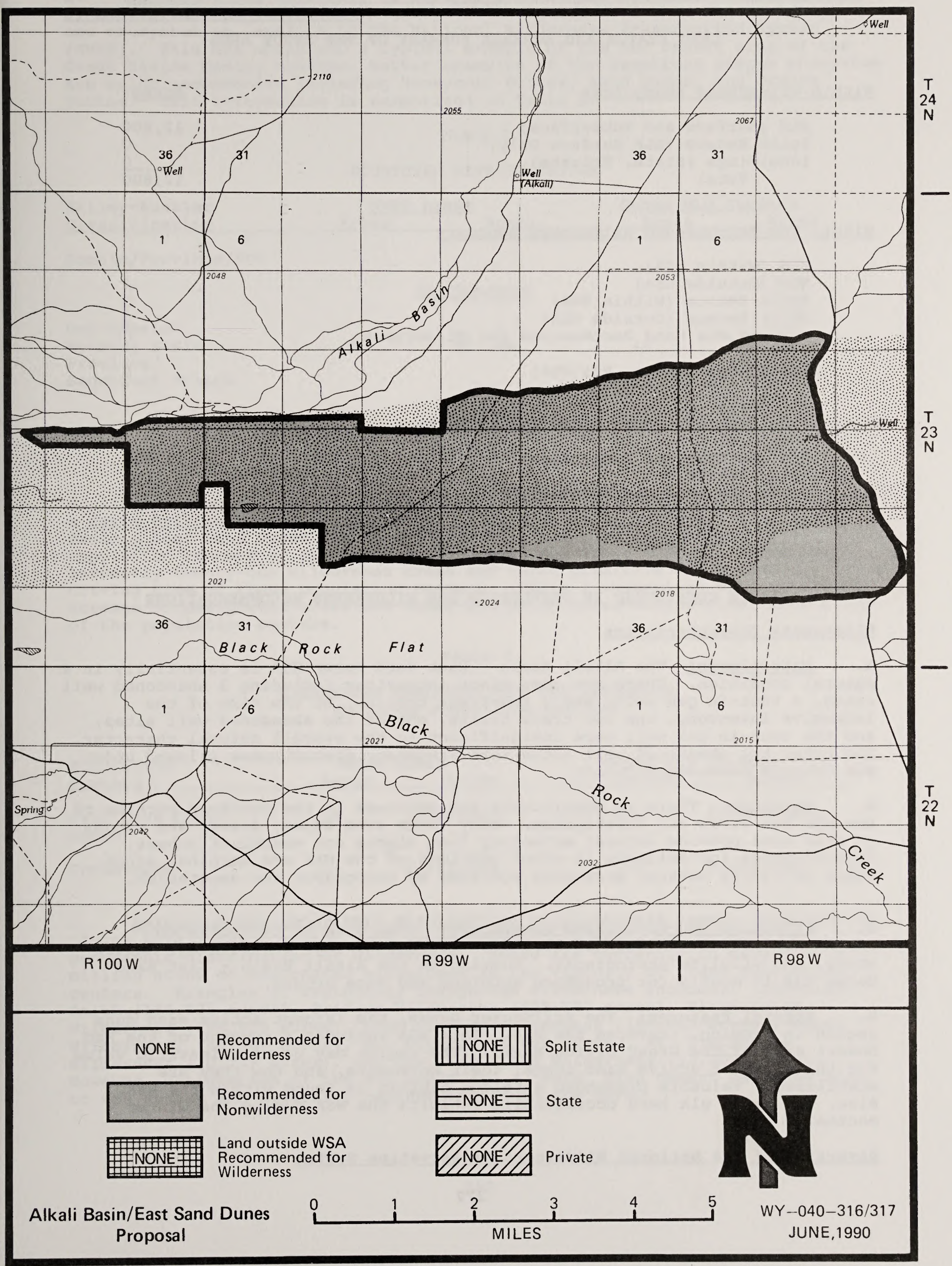
Other principal factors in recommending nonwilderness for this WSA were the lack of exemplary wilderness values and the difficulty in which the area could be managed as wilderness. Although the WSA contains the wilderness values described in the 2(c) criteria of the Wilderness Act, these values are not present to the degree deemed necessary for wilderness designation. The WSA is

narrow (1-2 miles), long (11 miles), and consists primarily of large sand dunes. While the overall impact to naturalness is slight in the WSA, the three abandoned well sites, the shut-in well, and eight miles of two-track trails reduces naturalness to the point where it is not truly outstanding or unique.

Outstanding opportunities for solitude are only available in the dunes, draws and ridges in the southern portion of the WSA. In the remainder of the WSA, topography and vegetation provide little natural screening; these portions of the WSA would thus provide less than outstanding opportunities for solitude.

The Sand Dunes provide outstanding recreation opportunities for a unique type of unconfined recreation. Because the area is composed of large sand dunes, opportunities are limited in scope. The major recreation activities in the WSA include hunting and nature photography. Hiking and backpacking opportunities are limited, mainly because of the large sand dunes that cover most of the WSA. Lack of good campsites and lack of water in the area would not serve to draw visitors for extended periods.

In addition, managing this area as wilderness would be extremely difficult. The long narrow shape of the WSA would subject a visitor to various outside sights and sounds of adjacent land uses, including oil and gas development and vehicles. Because of its lack of physical barriers and its remote location, the WSA would be difficult to protect or defend against off-highway vehicle use.



Alkali Basin/East Sand Dunes Proposal

WY–040–316/317
JUNE, 1990

TABLE 1

LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	12,800
Split Estate (BLM Surface Only)	0
Inholdings (State, Private)	0
Total	12,800
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split Estate (Within WSA)	0
Split Estate (Outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area not Recommended for Wilderness	
BLM (Surface and Subsurface)	12,800
Split Estate	0
Total BLM Land not Recommended for Wilderness	12,800
Total	12,800

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Alkali Basin - East Sand Dunes WSA is essentially in a natural condition. There are some minor intrusions including 3 abandoned well sites, a shut-in gas well, and 2 two-track trails. At the time of the intensive inventory, the two track trails, one of the abandoned well sites, and the shut-in gas well were insignificant to the overall natural character. The other two abandoned well sites were temporary disturbances allowed under BLM Interim Management Policy.

B. **Solitude:** There is opportunity for solitude in the southern portion of the WSA but it is not outstanding. Many large sand dunes, draws, and ridges in this area provide natural screening from sights and sounds of others. Opportunities for solitude in other portions of the WSA are marginal since there is little natural screening provided by topography and vegetation.

C. **Primitive and Unconfined Recreation:** This area is conducive to unconfined recreation such as horseback riding, hiking, backpacking, nature study, and wildlife photography. Hunting in the Alkali Basin - East Sand Dunes WSA is mostly for pronghorn antelope and sage grouse.

D. **Special Features:** The Killpecker Dunes, the largest active sand dune region in Wyoming, traverse the WSA. This WSA includes a remnant of the Red Desert area of the Great Divide Basin. The region may be of scientific value for the study of active sand dunes, their movements, and how they are stabilized. Valuable pronghorn antelope habitat is found within the WSA. Also, the Sands elk herd occasionally inhabits the WSA during the winter months.

Diversity of the National Wilderness Preservation System

A. Expanding the diversity of natural systems and features as represented by ecosystems and landforms: Wilderness designation of this WSA would add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). This WSA would add a typical example of the Red Desert area of the Great Divide Basin; however, better examples of the sagebrush steppe ecosystem are being recommended including Honeycomb Buttes, Sand Dunes, and Oregon Buttes. This information is summarized in Table 2.

TABLE 2

ECOSYSTEM REPRESENTATION

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
		NATION-WIDE		
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
		WYOMING		
	1	67,062	16	230,035

B. Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers: The Alkali Basin - East Sand Dunes WSA is within a day's driving time of two major population centers -- Salt Lake City - Ogden and Provo - Orem. There are currently twenty-one wilderness areas and three primitive areas within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

TABLE 3

WILDERNESS OPPORTUNITIES FOR RESIDENTS
OF MAJOR POPULATION CENTERS

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. Balancing the geographic distribution of wilderness areas: Designation of the Alkali Basin - East Sand Dunes would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness, (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation in the NWPS.

Manageability - (The area must be capable of being effectively managed to preserve its wilderness character)

The Alkali Basin - East Sand Dunes WSA is manageable as wilderness. However, manageability is severely complicated by the area's size, openness, lack of topographic relief, and common character of vegetation. The narrowness of the WSA limits the wilderness experience opportunities because of the nearness of developed sites, noise, and the and the visibility of man's activities outside the area. Lack of physical barriers and remote location would make it difficult to protect or defend this WSA against off road vehicle use.

Energy and Mineral Resource Values

Leasable minerals known to occur in the WSA include oil and gas, and because their potential for discovery is high, it is an area of industry interest. The total recoverable reserves estimated to exist within the 12,800-acre WSA is 73.1 BCF of natural gas and 71,238 barrels of condensate. The success rate for wells drilled is expected to be a low 15%. This indicates that development may occur, but intense development is not likely.

There are no pre-FLPMA leases in the WSA. No other mineral resources are known to exist in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative

Issue Topics	Proposed Action (No Wilderness/No Action)	All Wilderness
Impacts on Wilderness Values	Mineral activity could adversely alter the wilderness values if it increased in the area. Naturalness and solitude could be impacted negatively due to the narrowness, small size, openness, and lack of topographic relief.	12,800 acres would be designated wilderness. Wilderness values would b retained in the WSA.
Impacts on Mineral Resources	Entire area open to mineral leasing. Estimates of 73.1 BCF natural gas ($95 million) and 1,424,763 BBLS condensate ($27 million) could possibly be recovered.	The area would be withdra from mineral attachment: 1-1 leasing. Estimates o of 73.1 BCF natural gas ($95 million) and 1,424,7 BBLS condensate ($27 million) could possibly be foregone.
Impacts on Recreation and Visual Resources	No effect on recreation opportunities in the WSA. Motorized vehicles would be limited to 8 miles of existing roads and trails and 14 miles of possible new roads.	No effect on recreation opportunities in the WSA except elimination of motorized vehicle use in the area.
Impacts on Vegetation/ Water/Soils	Entire Area VRM Class III. Moderate adverse impacts to soil and minor adverse impact to vegetation in the event of increased oil and gas activity.	Entire Area VRM Class I. No significant impacts to the area.
Impacts on Wildlife Values	Some short term displacement of big game in the event of increased oil and gas activity. Pronghorn are main big game species and would only be slightly affected. No change in the area's big game numbers.	No effect on wildlife.
Impacts on Livestock Grazing	No effect on grazing use.	No effect on grazing management practices or numbers. Occasional inconvenience to livestock operator because of restriction on motorized vehicle use.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: A total of 68 comments were received on this unit - 64 from Wyoming and four from other states. Eighteen favored inclusion of the unit as a wilderness study area, 44 opposed its inclusion, and five were in between. One comment included locations of oil and gas wells that were used to evaluate intrusions; the others were a general vote for or against wilderness, addressed supplemental values, or addressed livestock use, recreational use, or energy developments.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

ALKALI DRAW WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 16,990 acres

The Alkali Draw WSA (WY-040-311) includes 16,990 acres of BLM lands and 640 acres of State land (see Table 1). The area is located 25 miles north of Point of Rocks, Wyoming and contains a portion of the Great Divide Basin - Red Desert area. The WSA is bounded on the north by County Road 4-21, on the east, south, and west by unnamed roads. All State lands along the WSA boundary are excluded (see Map 1).

The unit contains a remnant of the Great Divide Basin - Red Desert area. Two major landforms lie within the Alkali Draw WSA. One of these is Alkali Draw, which is dominated by the draw and its tributaries draining eastwardly from the Bush Rim and Steamboat Mountain portions of the Continental Divide. A series of draws or canyons extend west-east through the unit to create a "washboard" topographic effect. Alkali Rim is the second ecosite and the "washboard" topographic effect is more tightly confined and rugged versus the first ecosite to the north.

The rim dominates the site's southern aspect and exhibits colorful blue rock escarpments. Big sagebrush is the dominant vegetation community over much of the area, along with saltbush. Greasewood is common along the major drainages. Valuable habitat for mule deer and elk is found within the area.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Rock Springs District Wilderness Environmental Impact Statement filed in October 1990. There were two alternatives analyzed in the EIS, including All Wilderness and No Wilderness, which is the recommendation in this report.

2. RECOMMENDATION AND RATIONALE -- 0 acres recommended for wilderness
16,990 acres recommended for nonwilderness

The recommendation for this WSA is to release the entire area (16,990 acres) for uses other than wilderness (see Map 1). The All Wilderness Alternative is considered to be the environmentally preferable alternative as it would result in the least change from the natural environment over the long term. The recommendation for this WSA would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

In arriving at a recommendation of nonwilderness, the WSA's value for oil and gas production and its less-than-exemplary wilderness values were primary concerns. The Alkali Draw WSA has high potential for the discovery of oil and gas and has pre-FLPMA leases on approximately 15% (2,705 acres) of the area, mostly located in the western portion.

Mineral industry interest and the three producing wells indicate that this area has potential for more oil and gas development. Five wells are projected to be drilled on the pre-FLPMA leases. An additional 22 wells are projected for development in the remainder of the WSA. Recoverable reserves estimated in the WSA include 38.1 BCF of natural gas and 1.5 million barrels of condensate.

Although the wilderness values described in the 2(c) criteria of the Wilderness Act are present in the WSA, these values are not present to the degree deemed necessary for wilderness designation. While the overall impact on the naturalness of the WSA is slight, the 8.5 miles of two track trails and three well sites are noticeable and reduce the naturalness to the point where it is not truly exemplary or significant enough to warrant designation.

The WSA has outstanding opportunities for solitude, primitive and unconfined recreation. The terrain does provide an excellent base for a variety of primitive recreation opportunities. However, the quality of the opportunities is not necessarily unique to this area nor are they sufficiently significant to warrant designation.

NONE — Recommended for Wilderness

Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

State

NONE — Private

0 1 2 3 4 5
MILES

Alkali Draw Proposal

WY–040–311
June, 1990

Table 1

Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	
BLM (surface and subsurface)	16,990
Split Estate (BLM surface only)	0
Inholdings (state, private)	640
Total	17,630
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (state, private)	0
Within the Area Not Recommended for Wilderness	
BLM	16,990
Split Estate	0
Total BLM Land Not Recommended for Wilderness	16,990
Inholdings (state, private)	640

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** This WSA is for the most part in a natural condition. There are nine two-track trails and three well sites inside the area. These man-made intrusions are substantially unnoticeable and are currently undergoing natural revegetation. Some of the two-track trails are used periodically by livestock operators and recreationists.

B. **Solitude:** This WSA offers opportunity for solitude. The "washboard" topographic screening provided by the draws or canyons helps contribute to these opportunities. Several persons could be in the WSA at the same time and not be aware of each other's presence.

C. **Primitive and Unconfined Recreation:** This area offers primitive and unconfined recreation, such as hiking, horseback riding, camping, photography, and sightseeing. Some small caves are found in the area and offer opportunity for recreation. The rims and cliff escarpments provide some non-technical climbing opportunities and challenging hikes.

D. **Special Features:** Ecological, geological, scientific, educational, scenic, and historic special features enhance the wilderness characteristics of the WSA. Eocene fossils (largely snails, clams, and leaves) can be found in several layers of geologic strata, suggesting a former riparian habitat which occurred in the area over 36.6 million years ago. The fossils occur in most of the Wasatch Formation and in the Tipton shale of the Green River Formation.

The gray and yellow coloration associated with the escarpments and the sandstone formations invite geologic exploration.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of the WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). Alkali Draw is a typical example of the Red Desert area of the Great Divide Basin, and is typical of hundreds of thousands of acres of western rangeland. The Wyoming Basin Sagebrush Steppe ecosystem is already represented in the NWPS by one existing wilderness area (Cloud Peak) and there are several other sagebrush steppe ecosystems that fall within BLM's wilderness study areas being examined (see Table 2).

Table 2

Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Acres	Area	Acres	Areas
Domain/Province/PNV				
		NATIONWIDE		
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,026	16	230,315
		WYOMING		
	1	67,026	16	230,315

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Day's Driving Time (Five Hours) of Major Population Centers:** The Alkali Draw WSA is within a day's driving time of two major population centers -- Salt Lake City- Ogden and Provo-Orem. There are currently 21 wilderness areas and 3 primitive areas within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3

Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. **Balancing the Geographic Distribution of Wilderness Areas:** The Alkali Draw WSA would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (14,715 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation of in the NWPS.

Manageability (the area must be capable for being managed to preserve its wilderness character)

A portion of this WSA is judged not to be manageable as wilderness. Approximately 15 percent (2,705 acres) of the WSA is covered by pre-FLPMA oil and gas leases, mostly in the western part of the WSA. It is projected that five new wells will be developed, along with the construction of 2-3 miles of new access roads in and through the southwestern and western portion of the WSA. Wilderness values of naturalness and solitude would effectively be lost on 2,705 acres due to the sights and sound of development in this area. The remainder of the area is judged to be manageable as wilderness.

Energy and Mineral Resource Values

Mineral industry interest and producing wells indicate that this area has potential for more oil and gas development. Approximately 15 percent (2,705 acres) of the WSA has pre-FLPMA leases and would continue to be subject to valid existing rights. All of the pre-FLPMA leases are located in the western portion of the WSA. The western portion of the WSA is in the Treasure Unit, which had a cumulative production of 9,412 barrels (BBL) of oil and 103,910 thousand cubic feet (MCF) of gas from the Muddy sandstone through 1982 (Wyoming Oil and Gas Conservation Commission).

The total recoverable reserves within the WSA are estimated at 38.1 BCF of natural gas and 1,547,892 barrels of concentrate. These figures include possible production from the Lewis, Mesaverde, Frontier, Mowry, and Muddy formations.

No other mineral resources are known to occur within the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered, including designation or non-designation of the entire area as wilderness.

Table 4
Comparative Summary of Impacts by Alternative

Issue Topic	All Wilderness	Proposed Action (No Wilderness)
Wilderness Values	16,990 acres would be designated wilderness. 2,705 acres of WSA has pre-FLPMA leases and would be subject to valid existing rights naturalness, solitude, and primitive and unconfined recreation would be adversely affected by oil and gas activity operating under pre-FLPMA leases.	Mineral development could significantly adversely alter the wilderness values. At least half of the natural character of the area would be lost due to development in the long term 20% of this loss in naturalness would be due to oil and gas development on pre-FLPMA leases.
Mineral Resources	The area would be withdrawn from additional leasing. Valid existing rights may be exercised on 15% of the area (pre-FLPMA leases). Production pre-FLPMA leases estimated at 6.9 BCF ($9 million) of natural gas and 278,620 BBLS ($5.3 million).	Entire area open to mineral entry. Production of oil and gas estimated at 38.1 BCF ($49.5 million) of natural gas plus 1,547,892 BBL of condensate ($29.4 million) would be recovered.
Recreation and Visual Resources	Recreation opportunities associated with the use of motorized vehicles would be reduced. Approximately 35 hunter-days would be lost due to vehicle closure. Entire area would be rated VRM Class I.	Recreational use of the WSA would remain at current low levels. Entire area is rated VRM Class III.
Vegetation/Soil/ Water	Minor adverse impacts would occur to vegetation, soil, and water due to oil and gas activity on pre-FLPMA leases.	Moderately adverse impacts would occur to soils and vegetation and minor adverse impacts to water due to oil gas activity.
Wildlife	Moderate adverse impacts would occur to wildlife due to disturbance by oil and gas activities on pre-FLPMA leases.	Highly adverse impacts would occur to wildlife due to disturbance by oil and gas activity.
Livestock Grazing	No appreciable effect on grazing use. Some increased cost to livestock operators due to restrictions on use of motorized vehicles.	No appreciable effect on grazing use.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-specific Public Comments

Inventory: During the inventory phase, 66 comments were received on this unit, 59 from Wyoming and 7 from Colorado, Missouri, and Utah. Forty-seven opposed inclusion of this unit as a wilderness study area and 19 favored its inclusion. Only three comments were specific enough to help determine wilderness qualities and characteristics: Two of these objected to the proposed WSA and the other dealt with oil and gas exploration, livestock uses, and supplemental values. The decision to include Alkali Draw as a WSA was appealed to the Interior Board of Land Appeals (IBLA). In its ruling on the appeal in 1983, the IBLA upheld the Bureau's decision to include the area as a WSA.

No comments were received during the MFP comment period.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

RED LAKE WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 9,515 acres

The Red Lake Wilderness Study Area (WSA) (WY-040-318) includes 9,515 acres of BLM land with no private or state inholdings (see Table 1). The WSA is located in east-central Sweetwater County, about 21 miles northeast of the town of Point of Rocks. The area is bounded on the south by County Road 4-20; on the east by the Rock Springs District boundary fence; on the north by an unnamed road running east-west and the northern edge of the active sand dunes; and on the west by state land and County Road 4-21. All state lands along the boundary are excluded from the WSA.

This WSA is characterized by rolling brush covered hills and stabilized dunes in its western portion, active and partially stabilized sand dunes throughout the central, eastern, and southern sections, and the flat, dry lake bed of Red Lake in the north. The dune areas form a portion of the Killpecker Sand Dunes. Vegetation consists of sagebrush species, rabbitbrush, and greasewood within the draws and grassy wet meadows between the dunes. The WSA contains yearlong pronghorn antelope habitat and a herd of desert elk occasionally inhabit the WSA during winter months. Coyotes are quite common throughout the WSA, and on rare occasions, bobcats can be seen.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA), and was included in the Rock Springs District Wilderness Environmental Impact Statement finalized in 1990. There were two alternatives analyzed in the EIS, including All Wilderness and No Wilderness, which is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE -- 0 acres recommended for wilderness
9,515 acres recommended for nonwilderness

The recommendation for this WSA is to release the entire area for uses other than wilderness. The All Wilderness alternative is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment over the long term. The recommendation for this WSA would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

Although the wilderness values described in the 2(c) criteria of the Wilderness Act are present in the WSA, these values are not present to the degree deemed necessary for wilderness designation. The area's size, topography, and configuration were prime considerations in determining the quality of the wilderness values in this WSA. The WSA is long and narrow, with a topography that is predominantly low rolling sand dunes. BLM's intensive inventory concluded that opportunities for solitude in the Red Lake WSA are excellent. The topography, vegetative patterns and sand dune characteristics all combine to give the visitor a sense of isolation. However, these qualities and opportunities are not necessarily unique to this area, or significant enough to warrant wilderness designation.

Opportunities for primitive and unconfined recreation are also available in the WSA, but these values are not rated as outstanding. Because the area is primarily a large sand dune, opportunities for primitive recreation are limited in scope. The major recreation activities include nature photography and sightseeing. Hiking and backpacking opportunities are limited, primarily because of the large sand dune that covers most of the WSA. The lack of good campsites and the lack of water in the area would not serve to draw visitors for extended periods.

The area's naturalness is adversely affected to some extent by adjacent land uses. The sights and sounds associated with oil and gas field development that surrounds the WSA would cause some loss of the perception of naturalness in the WSA. The WSA contains an estimated 54.4 BCF of natural gas and 1.06 BBLS of condensate. The value of these resources ($92,000,000) and the current activity nearby are the principle reasons for the non-suitable recommendation.

NONE — Recommended for Wilderness

Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

NONE — State

NONE — Private

0 1 2 3 4 5
MILES

Red Lake Proposal

WY-040-318
June, 1990

Table 1

Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	9,515
Split Estate (BLM surface only)	0
Inholdings (state, private)	0
Total	9,515
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (state, private)	0
Within the Area Not Recommended for Wilderness	
BLM	9,515
Split Estate	0
Total Not Recommended for Wilderness	9,515
Inholdings (state, private)	0

3. Criteria Considered in Developing the Wilderness Recommendation

Wilderness Characteristics

A. **Naturalness:** The Red Lake WSA is in a near-natural condition. Intrusions in the WSA include a minor two-track trail from the western boundary road; a well and accompanying water trough, just inside the northern boundary road; and a few random tracks from off-road vehicles.

B. **Solitude:** Opportunities for solitude in the WSA are excellent. The WSA is relatively open, but has topographic relief and vegetation that provides screening.

The use of motorized vehicles in connection with range management activities would be infrequent and would not affect wilderness values, except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. Solitude would be the only wilderness value adversely affected by these activities.

C. **Primitive and Unconfined Recreation:** According to the intensive inventory, this area is conducive to primitive and unconfined recreation. Raptors, wild horses, antelope, coyotes, and a variety of small mammals challenge the wildlife photographer. Hiking, backpacking, camping, horseback riding, hunting, and sightseeing for botanical, zoological, geological, and archeological features are other experiences available to the visitor. However, because the area mainly consists of a large sand dune, campsites and water are limited and thus limit the scope and quality of these opportunities.

D. **Special Features:** The Killpecker Sand Dunes traverse the WSA from west to east. The WSA includes a remnant of the Red Desert area of the Great Divide Basin. This region may be of significant scientific value for the study of active sand dunes, their movements, and how they are stabilized.

Diversity in the National Wilderness Preservation System

A. **Expanding the Diversity of Natural Systems and Features as Represented by Ecosystems and Landforms:** Wilderness designation of this WSA would add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). Although this WSA would add a typical example of the Red Desert area of the Great Divide Basin, Adobe Town and Honeycomb Buttes are recommended for partial designation, both of which contain the saltbush-greasewood ecosystem. This information is summarized in Table 2.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Area	Acres	Area	Acres
Domain/Province/PNV				
		NATIONWIDE		
Dry Domain/ Wyoming Basin Province/ Saltbush-Greasewood	0	0	4	94,549
		WYOMING		
	0	0	4	94,549

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Day's Driving Time (Five Hours) of Major Population Centers:** The Red Lake WSA is within a day's driving time of 2 major population centers--Salt Lake City-Ogden and Provo-Orem. There are currently 21 wilderness areas and 3 primitive areas within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3

Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Acres	Area
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. **Balancing the Geographic Distribution of Wilderness Areas:** Designation of Red Lake WSA as wilderness would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and provide representation of a typical example of the Red Desert area of the Great Divide Basin in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The Red Lake WSA is manageable as wilderness. However, manageability would be extremely difficult because of the area's size, openness, and lack of topographic relief. Lack of physical barriers and remote location would make it difficult to protect or defend against ORV use. The shape of the WSA also contributes to the management difficulty because the area can be easily ingressed and egressed by vehicles at a multitude of locations. This adversely affects management of wilderness values.

Energy and Mineral Resource Values

Leaseable minerals known to occur in the WSA include oil and gas. Although the potential for the discovery of oil and gas is low, it is an area of industry interest (success ratio for wells drilled in the WSA is estimated at 15%). Wells drilled adjacent to the WSA on the west and south have been dry holes. There are no records of exploration within the WSA itself, where active sand dunes make oil and gas development very difficult. There are no pre-FLPMA oil and gas leases in the WSA. No other mineral resources are known to exist in the WSA.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered, including designation or non-designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative

Issue Topics	All Wilderness	No Action (No Wilderness)
Impacts on Wilderness	9,515 acres would be designated. Wilderness values would be retained in the WSA.	Mineral development could significantly adversely alter the wilderness values. Naturalness and solitude could be impacted negatively due to the small size, relative openness, and lack of topographic relief.
Impacts on Mineral Resources	The area would be withdrawn from mineral leasing. Estimates of 54.4 BCF natural gas ($72,000,000) and 1,059,109 BBLS condensate ($20,000,000) could possibly be foregone.	Entire area open to mineral leasing. Estimates of 54.4 BCF natural gas ($72,000,000) and 1,059,109 BBLS condensate ($20,000,000) could possibly be recovered.
Impacts on Recreation and Visual Resources	No effect on recreation opportunities in the WSA except elimination of motorized vehicles in the area.	No effect on recreation opportunities in the WSA. Off-road vehicles would be limited to existing roads and trails.
Impacts on Vegetation/ Water/Soils	Positive effects on vegetation, water, soils with a motorized vehicle closure.	Highly adverse impacts Visu would occur to soils and moderate adverse impacts would occur to vegetation if oil and gas activity increased.
Impacts on Wildlife Values	No effect on wildlife. Some short-term displacement of big game due to oil and gas activity. No change in the area's big game numbers.	New oil and gas leases at the far east end would be conditioned to protect crucial deer winter range. Oil and gas operators would be required to reclaim areas no longer needed for oil and gas exploration and production.
Impacts on Livestock	No effect on grazing management practices on numbers. Occasional inconvenience to livestock operator because of restriction on motorized vehicle use.	No effect on grazing use.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Comments

Inventory: During the inventory phase, 14 comments were received on this unit-thirteen from Wyoming and one from Colorado. Six favored inclusion of the unit as a wilderness study area, seven opposed its inclusion, and one had no opinion. Three comments which included specific details on intrusions were used to evaluate wilderness criteria; the others were general votes for or against wilderness or addressed values covered during the inventory phase.

No comments were received during the MFP comment period.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

HONEYCOMB BUTTES WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 41,188 Acres

The Honeycomb Buttes WSA (WY-040-323) includes 39,908 acres of BLM land, 640 acres of split estate land, and 640 acres of state land (see Table 1). The area is located in northeastern Sweetwater County, approximately 52 miles northeast of Rock Springs. The area is bounded on three sides by unnamed, unpaved roads, and on the east side by the Rock Springs District boundary fence. A road and 40 acres of private land are cherrystemmed out of the WSA along the Sand Creek drainage. State and private lands along the boundary are excluded from the WSA (See Map 1).

The unit contains several terrain types ranging from sagebrush hills and greasewood flats surrounding the badlands to the eroding buttes themselves with their many colored bluffs, small draws, and side canyons. The Honeycomb Buttes WSA is one of the best examples of badlands topography in Wyoming and although not as extensive or quite as spectacular, they compare favorably with the Badlands National Monument in South Dakota.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA), and was included in the Rock Springs District Wilderness Environmental Impact Statement filed in October 1990. There were three alternatives analyzed in the EIS including All Wilderness, No Wilderness, and Partial Wilderness, in which 37,287 acres are recommended for wilderness and 3,901 acres would be released for nonwilderness uses. Partial Wilderness is the recommendation in this report.

2. RECOMMENDATION AND RATIONALE -- 37,287 acres recommended for wilderness
3,901 acres recommended for nonwilderness

The recommendation for this WSA is to designate 37,287 acres (36,647 acres Federal and 640 acres split estate) as wilderness and release 3,901 acres for uses other than wilderness. The All Wilderness Alternative is considered to be the environmentally preferable alternative as it would result in the least change to the natural environment over the long term. The recommendation would be implemented in a manner which would use all practical means to avoid or minimize environmental impacts. Appendix 1 lists all inholding and split estate tracts and provides additional information on acquisition of inholding and split estate minerals.

In recommending this portion of the WSA for wilderness, the high quality of the area's wilderness values was a key consideration. The 37,287 acres recommended for wilderness designation contains the most outstanding wilderness values in the WSA and is least affected by human activity. The highly colorful and rugged desert badlands provide outstanding opportunities for solitude. The rugged topography provides more than adequate screening to ensure that one could escape the sights and sounds of others.

Although a few two-track trails intrude into this portion of the WSA, the area remains in a highly natural-appearing state. The erosive nature of this part of the WSA causes most surface impacts to rapidly fade into obscurity.

The recreation values of the portion of the WSA recommended for wilderness are outstanding. This portion of the WSA offers exemplary opportunities for hiking, camping, and rockhounding among the many twisted and contorted shapes of the badlands. Nontechnical climbing on the clay and rocky buttes is an outstanding experience and caving in the erosion caves found in the buttes is a highly unusual experience.

Designation of this portion of the WSA would add an ecosystem not currently represented in the National Wilderness Preservation System (NWPS). The 37,287 acres recommended for wilderness designation contain the Wyoming Basin/Saltbush-Greasewood ecosystem which is not found in any designated wilderness. Honeycomb Buttes represents one of the better examples of badlands topography in Wyoming.

The 3,901-acre area not recommended for wilderness designation is separated from the rest of the WSA by a road and 40 acres of private land. The road leading to the private land from the east is "cherrystemmed," so it does not truly lie within the WSA. However, the road continues west from the private land, eventually exiting the WSA. The road is moderately used to facilitate livestock grazing management and oil and gas exploration. Releasing this portion of the WSA for nonwilderness uses eliminates a cherrystem and thus greatly improves manageability of the recommended area by eliminating potential conflicts with the use of the private land.

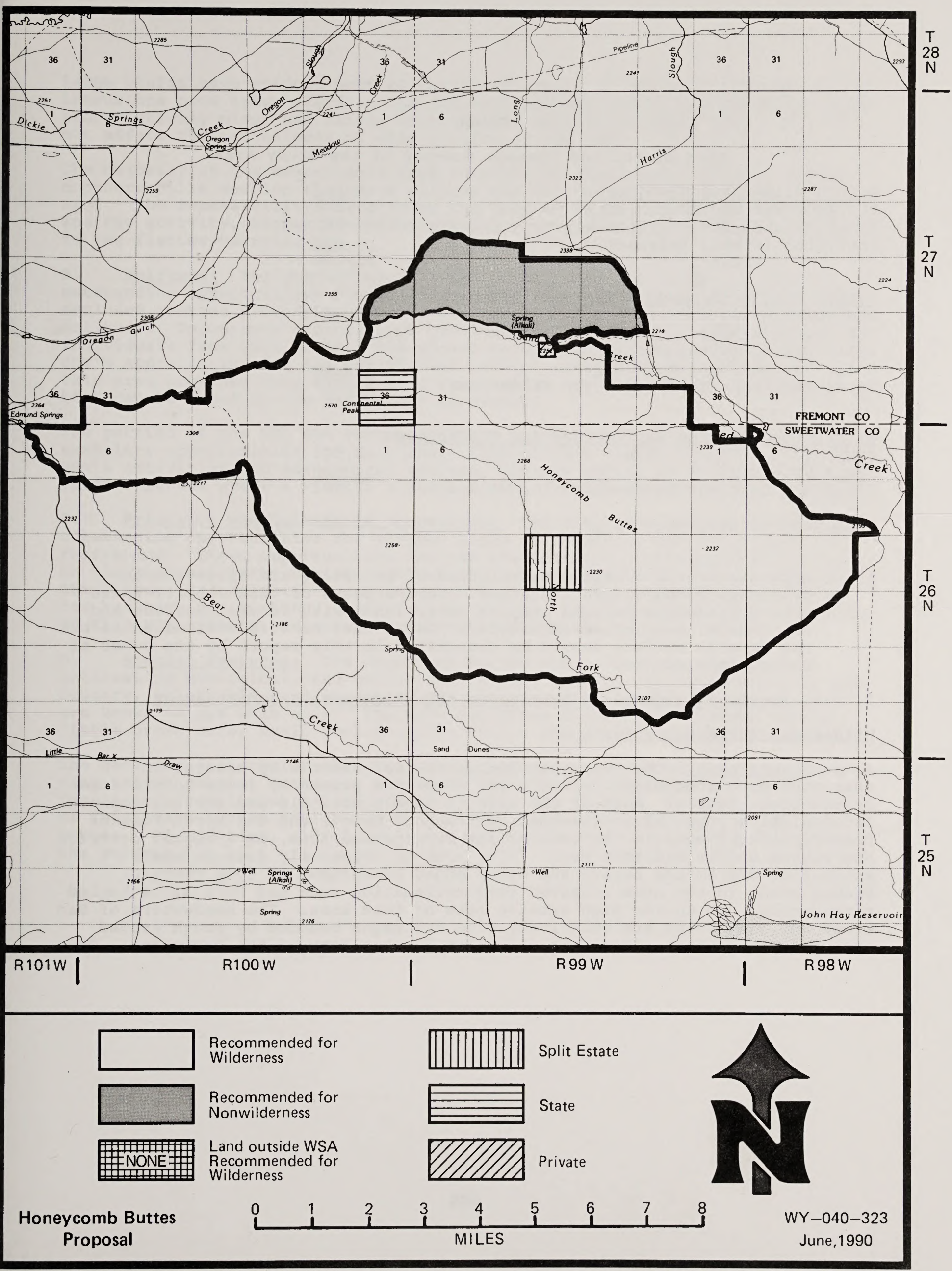

T 28 N
T 27 N
T 26 N
T 25 N
R101W
R100W
R99W
R98W
Pipeline
Slough
Oregon
Creek
Long
Harris
Dickie
Springs
Oregon Spring
Meadow
Oregon Gulch
Spring (Alkali)
Edmund Springs
Continental Peak
FREMONT CO
SWEETWATER CO
Honeycomb Buttes
North Fork
Bear
Spring
Little Bar X Draw
Sand Dunes
Springs (Alkali)
Well
John Hay Reservoir
Recommended for Wilderness
Recommended for Nonwilderness
Land outside WSA Recommended for Wilderness
NONE
Split Estate
State
Private
0 1 2 3 4 5 6 7 8
MILES
Honeycomb Buttes Proposal
WY–040–323
June,1990

Table 1

Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	39,908
Split Estate (BLM surface only)	640
Inholding (State, private)	640
Total	41,188
Within the Recommended Wilderness Boundary	
BLM (within WSA)	36,647
BLM (outside WSA)	0
Split Estate (within WSA)1/	640
Split Estate (outside WSA)1/	0
Total BLM Land Recommended for Wilderness	37,287
Within the Area Not Recommended for Wilderness	
BLM	3,901
Split Estate1/	0
Total BLM Land not Recommended for Wilderness	3,901
Inholding (State, private)1/	640

1/ Appendix 1 is a detailed description of inholding and split estate tracts included within the study. For purposes of this report, split estate lands are defined only as those lands with federal surface and non federal subsurface (minerals). Lands that have federal minerals but non federal surface should be classified in this report by the owner of the surface estate.

3. Criteria Considered in Developing the Wilderness Recommendation

Wilderness Characteristics

A. Naturalness: The Honeycomb Buttes WSA is essentially natural in character with some minor intrusions. These are primarily found in the form of two-track trails. Much of the area is highly erodible and surface impacts fade relatively quickly. The Honeycomb Buttes proper and the North Fork of Bear Creek drainage, in the core of the recommended area, is a highly colorful and rugged desert badlands area. This area is relatively free of man's activities due to the severe and sharp edged topography of this terrain. Bladed roads in the area received some reclamation work and have since healed considerably due to the high erosive rate of this area. The headwaters of Red Creek and Sand Creek are relatively wide drainages bounded by rough eroded escarpments on three sides with wide flat benches between the drainages. The

large bluffs have stopped most of man's activities in the area although some intrusions have taken place in the drainage bottoms and on the benches. These are relatively minor and fairly deteriorated to a point where they really do not affect the naturalness of this portion of the unit.

The majority of the nonsuitable area consists of draws and drainages in the northern hills section that have allowed man fairly easy access through the area. The accessibility has allowed the area to be more developed with oil and gas activity, higher livestock grazing use, and many more roaded areas due to the flatter terrain.

B. **Solitude:** The portion of this WSA recommended for wilderness offers outstanding opportunities for solitude. The many cliffs, ridges, draws, and secluded grottos provide numerous areas where a person could experience solitude. Topography of this type provides for effective screening of individuals from each other. The superb coloration of the buttes enhances one's appreciation for the undisturbed natural setting of the Honeycombs. This area provides some of the most outstanding opportunities for solitude that can be found in the Red Desert of Wyoming.

The portion of the WSA not recommended for wilderness does not have similar exemplary opportunities for solitude. This portion contains more evidence of man's activities and has gentler terrain, thereby making it difficult to find large expanses where a visitor could avoid the sights and sounds of others.

C. **Primitive and Unconfined Recreation:** The Honeycomb Buttes WSA provides outstanding opportunities for various kinds of primitive and unconfined recreation. These opportunities include rockhounding, nontechnical climbing on the clay and rocky buttes, spelunking in the many erosion caves found in the buttes, and wildlife and outdoor photography. Opportunities also exist for backpacking, hunting, and horseback riding. The remarkable scenic quality of this WSA greatly enhances the recreational values.

D. **Special Features:** The Honeycomb Buttes WSA is host to a number of interesting ecological, and geological values. Due to the wild nature of the country, relatively rare or shy animals as mountain lions, bobcats, and elk are known to use this area. The many mud caves found in the buttes harbor little brown bats, small footed myotis (bat), and great horned owls.

The geologic features of this WSA have spectacular eroded buttes and badlands with unique colors, textures, varieties and forms. It is one of the best fossil and fossil cast bearing formations in the region. Numerous fragments of fossilized turtle shells may be found scattered over the surface of the buttes. In addition, algae, wood, and many other fossil casts may be found on the surface.

Diversity in the National Wilderness Preservation System

A. Expanding the diversity of natural systems and features as represented by ecosystems and landforms: Wilderness designation of this WSA would add a new ecosystem and landform to the National Wilderness Preservation System (NWPS). This WSA is represented by two ecosystems within the Wyoming Basin Province, saltbush-greasewood and sagebrush steppe. The saltbush-greasewood ecosystem covers 13,093 acres and the sagebrush steppe ecosystem includes 17,851 acres. There are only three other BLM WSA's representing the saltbush-greasewood ecosystem and there are 15 BLM WSA's representing the sagebrush steppe ecosystem in Wyoming. This information is summarized in Table 2.

Table 2

Ecosystem Representation

Bailey - Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
		NATIONWIDE		
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,026	16	230,035
		WYOMING		
	1	67,026	16	230,035
		NATIONWIDE		
Dry Domain/ Wyoming Basin Province/ Saltbush-Greasewood	0	0	4	94,549
		WYOMING		
	0	0	4	94,549

B. Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers: The Honeycomb Buttes is within a day's driving time of two major population centers--Salt Lake City-Ogden, and Provo-Orem. There are currently 21 wilderness areas and three primitive areas within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas Areas	NWPS Areas Acres	Other BLM Studies Areas	Other BLM Studies Acres
Salt Lake City-Ogden	21	3,080,456	151	5,705,086
Provo - Orem	28	2,810,215	133	5,451,742

C. **Balancing the geographic distribution of wilderness areas:** Designation of Honeycomb Buttes would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Mt. Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation in the NWPS.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character)

The portion of the Honeycomb Buttes WSA recommended as suitable is manageable as wilderness. The oil and gas potential for this portion of the WSA is rated as low. In addition, the wilderness public comment process revealed few potential impacts to oil and gas exploration, or livestock grazing.

Manageability would be increasingly difficult with the inclusion of the 3,901 acres not recommended for wilderness. The road that separates the two portions of the WSA would be a noticeable intrusion and it would be difficult to successfully eliminate vehicle traffic from it. The private land and access road also separate the two portions and present potential manageability problems as the uses of the private land change. The area itself has a high number of two- track trails. Removal of this portion would greatly enhance the manageability of the area recommended for wilderness.

Energy and Mineral Resource Values

The U.S. Geologic Survey and the Bureau of Mines prepared a mineral assessment for the Honeycomb Buttes WSA in 1987 (U.S. Geological Survey Bulletin 1757-B). That assessment is the primary source for the following discussion.

The area has low to moderate potential for areas of very low grade placer gold deposits in terrace gravels, low and moderate resource potential for small uranium deposits, moderate resource potential for accumulation of oil and gas, and low resource potential for coal and oil shale.

There are no pre-FLPMA leases in the Honeycomb Buttes WSA. There are 14 current mining claims in the area recommended as suitable. These claims are in the north part of the recommended WSA within a mile of the boundary. However, no production from claims in the WSA is anticipated.

There is low potential for salable mineral values in the Honeycomb Buttes WSA and no activity is anticipated.

Impacts on Other Resources

The comparative impact table (Table 4) summarizes the effects on pertinent resources for all alternatives considered, including designation, partial designation, or non-designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative

Issue Topics	All Wilderness	No Wilderness	Proposed Action Partial Designation
Wilderness Values	Protection of wilderness values would assure future opportunities for solitude and primitive recreation experiences.	Oil, gas, range management, and motorized recreation activities would impact wilderness characteristics including the ability to experience naturalness, solitude, and primitive, unconfined recreation.	Within the designated portion, potential problems associated w exploration of mineral resource on adjacent lands would be avoi The boundary resulting from thi alternative would be readily id tifiable enhancing the manageme capabilities of the designated area.
Recreation Opportunities and Uses	Small decrease in recreation visits as associated with motorized vehicles. This would have no appreciable impact on recreation opportunities in the region.	No change in current use except as impacted by mineral exploration and development. Primitive recreation opportunities would still be available in most of the WSA.	Within the designated portion, there would be a decrease in hunter use and other recreation activities that have historical used motorized vehicles. This would shift to other nearby are
Wildlife Population	No man induced changes in wildlife habitat.	Changes to wildlife habitat would occur if mineral exploration and/or development should occur. Change or loss of habitat would be temporary in the long term.	Temporary change in habitat and relocation of wildlife in those d signated areas impacted by mine exploration development. No change in designated areas.
Mineral Exploration and Production	Estimates of 64.2 BCF of natural gas would be foregone in the WSA. No impacts anticipated on solid minerals.	No change in current management because of the depth of the reserves in this area. No exploration or development is anticipated in the near future.	Extimates of 56.5 BCF of natura gas would be foregone in the de signated portions of the WSA. No impacts are anticipated on coal, locatable or salable minerals.
Livestock Grazing and Management	No effect on livestock management practices and numbers. Occasional inconvenience to operators due to restrictions on motorized vehicle use. Increased cost to operators.	No effect on livestock manage-practices and numbers. Motorized vehicles would be allowed in connection with range management activities.	No effect on livestock practice and numbers. Occasional inconvenience to livestock operators due to restrictions on motorize vehicle use.
Water Quality	No man induced change would occur in the current water quality.	Mineral exploration/development and reservoir maintenance activities could result in accelerated erosion in an already highly erodable formations. This increase in sedimentation would have adverse affect on streams and water collecting facilities, both natural ponds and livestock reservoirs.	No impact in designated area. Some degradation in areas not designated if development of oil and gas or range facilities occurs.

Local, Social, and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Public Comments

Inventory: During the inventory phase, twenty-four comments were received on this unit. Fourteen favored inclusion of the unit as a wilderness study area, nine opposed its inclusion, and one was in between. Only one comment was specific enough to help determine wilderness qualities and intrusions. The area was reduced in size from the original 75,123 acres due to intrusions in the northern hills and southern flatlands sections of the unit.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

Appendix 1

Estimated Costs of Acquisition of Non Federal Holdings Within Areas Recommended for Designation 1/

Legal Description (Prior to any Subdivision)	Total Acreage	No. of Owners (if Parcel has been Subdivision)	Type of Ownership by Estate (Federal, State, Private, other)		Presently Proposed for Acquisition	Preferred Meth. of Acquisition (Purchase, Exchange, other)	Estimated Cost of Acquisition	
			Surface Estate	Subsurface Estate			Land Costs	Processing Costs 2/
Parcel #1, T.26N., R.99W., Sec. 16	640	1	Federal	State	Yes	Exchange	N/A	$6,000

1/ The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to them included in the WSA. The estimates for purposes of establishing a range of potential costs to the government of acquiring Non- Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc.

2/ Where exchange is the proposed acquisition method, only administrative costs of processing the exchange is shown. Land costs would not be applicable.

OREGON BUTTES WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA (5,700 acres)

The Oregon Buttes Wilderness WSA (WY-040-324) includes 5,700 acres of BLM administered public lands, with no private or state inholdings (see Table 1). The area is located in north-central Sweetwater County, approximately 30 miles northeast of Farson. The area is bounded on all sides by unimproved two track roads. The northern boundary also includes about one mile of private land boundary. The southern edge includes about a two mile jog skirting a state land section (see map 1).

The Oregon Buttes is a prominent landmark, rising out of the northwestern portion of the Red Desert to an elevation of 8,612 feet above sea level and 1,200 feet above the desert floor. The Buttes posses a wide variety of vegetation types, including limber pine stands, and small thick, isolated stands of aspen . Numerous seeps have developed wet meadows. The WSA contains valuable big game habitat (elk, mule deer, and pronghorn antelope), and is also an important elk calving ground. The WSA includes 3,360 acres of the Oregon Buttes Cultural Area of Critical Environmental Concern (ACEC).

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA), and was included in the Rock Springs District Wilderness Environmental Impact Statement (EIS), filed in October 1990. Two alternatives were analyzed in the EIS, including all wilderness, (the recommendation of this report), and no wilderness.

2. RECOMMENDATION AND RATIONALE - 5,700 Acres Recommended for Wilderness
0 Acres Recommended for Nonwilderness

The recommendation for this WSA is to designate all 5,700 acres as wilderness (Map 1). The recommendation of all wilderness is the environmentally preferable alternative as it would result in the least change to the natural environment.

Key considerations for recommending this WSA to the wilderness system are the exemplary quality of the area's wilderness values, a lack of man-made intrusion, its natural appearance and historical significance associated with the Oregon Trail.

Opportunities for outstanding solitude in the WSA are good. There are tiny pocket forests scattered around the buttes which provide opportunities for solitude. Much of the surrounding countryside is undeveloped and enhances the solitude of the area.

Recreation values of the WSA are outstanding. Opportunities for hiking, backpacking, nature study, photography, hunting, rock climbing, and horse back riding combine to offer a diverse recreational experience.

A wilderness designation would not conflict with other resource uses in the area. Grazing would be allowed to continue; there are no oil and gas leases in the WSA. The WSA has been closed to ORV use for years and mineral development (coal, oil shale and uranium) is not anticipated to occur as better sources of these minerals exist nearby.

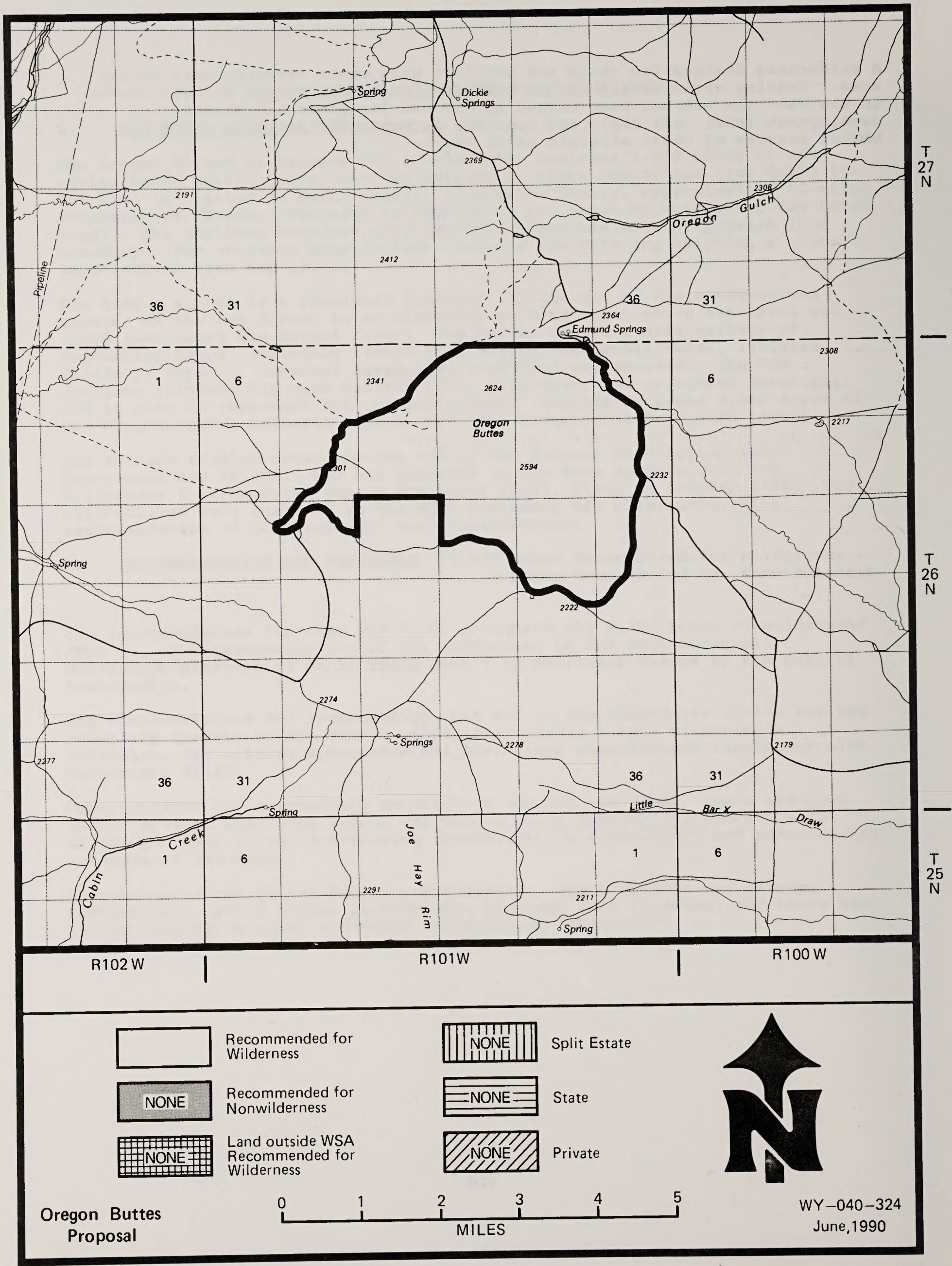

Spring
Dickie Springs
2369
2191
2412
Pipeline
36
31
1
6
2308
Oregon Gulch
2364
Edmund Springs
2341
2624
Oregon Buttes
2594
2301
2232
2217
2222
Spring
2274
Springs
2278
2179
2277
Little Bar X Draw
Spring
Cabin Creek
Joe Hay Rim
2291
2211
Spring
T 27 N
T 26 N
T 25 N
R102 W
R101W
R100 W
Recommended for Wilderness
NONE
Recommended for Nonwilderness
NONE
Land outside WSA Recommended for Wilderness
NONE
Split Estate
NONE
State
NONE
Private
N
0 1 2 3 4 5
MILES
Oregon Buttes Proposal
WY–040–324
June,1990

TABLE 1

LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

	Acres
Within Wilderness Study Area	
BLM (Surface and Subsurface)	5,700
Split Estate (BLM Surface Only)1/	0
Inholding (State, Private)	0
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	5,700
BLM (Outside WSA)	0
Split Estate (Within WSA)	0
Split Estate (Outside WSA)	0
Total BLM Land Recommended for Wilderness	5,700
Inholding (State, Private)	0
Within the Area not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM Land Not Recommended for Wilderness	0
Inholding (State, Private)	0

1/ Split estate lands are defined as those lands with Federal surface and non-Federal subsurface minerals.

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Oregon Buttes WSA appears to be in an essentially natural condition. The buttes are a remarkable landmark. They dominate the surrounding countryside with their grandeur and diversity. Visibility from the butte tops is outstanding, offering miles of scenic vistas including the Wind River Mountains on the north to the Unitah Mountain Range to the southwest.

There are two seismograph trails and 13 two-track trails, which slightly reduce the naturalness of the WSA. However, all of these intrusions become obscure; some end as haphazard tire tracks across the hills and dry clay like soil, others end abruptly at the top of a bench or saddle ridge, and others are overgrown with sagebrush and grass.

B. **Solitude**: Opportunities for solitude are good. However, much of this is due to the undeveloped nature of the surrounding countryside. The tops of the Buttes are relatively inaccessible. This plus the scattered stands of limber pine on top provide screening from the immediate surrounding terrain, providing solitude and immense vistas of the surrounding countryside.

C. **Primitive and Unconfined Recreation**: Opportunities for primitive and unconfined recreation are outstanding in the WSA. Being prime raptor habitat, the buttes provide bird watchers with a variety of species and uninterrupted observation. The WSA is also a prime area for scenic and wildlife photography, offering a unique variety of settings and subjects. Other recreation opportunities include hiking, rock climbing, rockhounding, backpacking, hunting, horseback riding, and sightseeing.

D. **Special Features:** A great number of special features are found in this WSA. Small pieces of petrified wood are abundant. The Oregon Buttes is a dominating landform which is historically important. The Buttes were a major landmark for travelers of the Oregon Trail, which is located less than seven miles to the north of the WSA. Emigrants viewed the Buttes as the halfway point on their journey from Independence, Missouri, to the Pacific Ocean. The Buttes also denoted the point where the emigrants passed over the Continental Divide and into the Pacific watershed. Nearly 300,000 emigrants passed this way between 1843 and 1863.

The western portion of the Oregon Buttes WSA is used as a calving area by the only desert elk herd in Wyoming. The WSA contains excellent raptor habitat and several known nest sites. There are historic peregrine falcon aeries on the west face of Oregon Buttes. Immature peregrine falcon are infrequently seen there during raptor surveys.

The remains of Indian tipi rings can be found in the Oregon Buttes Cultural ACEC portion of the WSA.

The objectives for managing the Oregon Buttes Cultural ACEC (3,360 acres of which are in the 57,00 acre Oregon Buttes WSA) include the protection of the area's scenic integrity as a historic landmark.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms**: Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). This WSA is a representative of the Wyoming Basin Province--sagebrush steppe.

Table 2
Ecosystem Representation

Bailey - Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
		Nation Wide		
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
		Wyoming		
	1	67,062	16	230,035

B. Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:

The Oregon Buttes is within a day's driving time of two major population centers, Salt Lake City - Ogden, and Provo - Orem. There are currently twenty-one wilderness areas and three primitive areas within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City - Ogden	18	1,925,081	151	5,705,086
Provo - Orem	21	2,225,116	133	5,451,742

C. **Balancing the geographic distribution of wilderness areas:** Designation of Oregon Buttes would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness include; Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation of the NWPS.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character): The Oregon Buttes WSA is manageable as wilderness. The boundary is identifiable, there are no oil and gas leases or state or private inholdings. Mineral development is not anticipated. While much of the WSA is staked for uranium claims, there has been no development and none is anticipated. There are no other known mining claims in the area.

Energy and Mineral Resource values: The WSA is currently unleased for oil and gas. Hydrocarbons are the most valuable potential mineral resource in the WSA. Both source rocks and potential reservoir rocks are found in the WSA. The area has moderate to high oil and gas development potential. The most probable recoverable reserves estimated to exist within the 5,600 acre WSA are 8.8 billion cubic (BCF) of natural gas.

The Buccaneer Unit #1 well in Section 23, T> 26 N., R. 102 W. (approximately three miles southwest of the WSA) was used to determine the most probable reserves. Although it has never been produced, due to the lack of a pipeline in the area, extensive well testing shows very favorable reserves. Deeper formations, tested only by one well in Section 3, T. 26 N., R. 101 W. also shows good potential for production. This potential may not be realized in the near future due to excessive drilling depths, the lack of a pipeline in the area, and the risks involved in drilling stratigraphic reservoirs. There are two depleted producers in Section 24, T. 276 N., R. 101 W. If oil and gas are produced from the WSA, it would most likely be from the deeper formations.

The maximum recoverable reserves estimate was calculated from figures in the Wyoming Geological Association Guidebook, Greater Green River Basin Symposium (WSA 1973). In that study, it was estimated that there are 3.32 BCF of recoverable gas per 640 acres explored in the Green River Basin (15,046 square miles). This amounts to a total recoverable reserve in the Green River basin of about 50,000 BCF of gas.

There are no oil or gas wells within the WSA and seven dry holes have been drilled within a six mile radius of the WSA. The two wells drilled were in excess of 17,000 feet, just southwest of the WSA, tested good potential in the deeper Cretaceous Formations and only the well in Section 8 was plugged as uneconomic.

All of the WSA is within a USGS coal classification order and within a coal lands withdrawal by Executive Order (November 15, 1919). The Oregon Buttes WSA has low potential for the economic development of the coal resource. There is a potential for the occurrence of a coal bearing sequence at depths in excess of 2,300 to 5,000 feet. No coal beds outcrop within the WSA.

Some oil shale occurs in the Wilkins Peak and Laney Shale members of the Green River Formation in the WSA, but the beds are thin and low grade. The oil shale resource has low development potential in the Oregon Buttes WSA.

North of the WSA on the southeast edge of the Prospect Mountains, uranium mineralization occurs in sandstone and conglomerate that are probably in the Wasatch Formation. In the WSA the formations of major interest appear to be Tertiary in age. A large portion of the WSA has been claim staked for uranium. However, no development has occurred and none is foreseen.

Sediment deposits of Quaternary age sand and gravel outcrop in the vicinity of Oregon Buttes. There is no nearby development and subsequently no demand for these resources which have a low development potential. The deposits could be used as a gravel source if development increases in the vicinity of these deposits. The resource would then have a higher development potential.

<u>Impacts on Other Resources</u>: The Following comparative impact table summarizes the effects on pertinent resources for all the alternatives considered including designation or non-designation of the entire area as wilderness.

TABLE 4
COMPARATIVE SUMMARY OF THE IMPACTS BY ALTENATIVE

Resources Affected	Proposed Action (All Wilderness)	No Wilderness/No action
Wilderness Values	5,700 acres would be designated. Wilderness values would be retained in the entire WSA.	Wilderness values could be lost in the long term.
Minerals, Oil & Gas	The area would be withdrawn from mineral leasing. Recoverable resources would be removed from potential production.	The entire area open to mineral entry.
Recreation and Visual Resources	Entire area VRM Class I. ORV restrictions would apply. There would be an insignificant reduction in hunter use due to vehicle restrictions.	Minor Adverse impacts due to oil and gas activity and ORV's. Entire VRM area Class II.
Wildlife Habitat and Populations	No effect on wildlife.	Minor adverse impacts due to oil and gas activity. Numbers could be reduced if impacts to calving areas not mitigated.
Vegetation/Water/Soils	No adverse impacts.	Moderately adverse impacts would occur to soils and minor adverse impacts to vegetation due to oil and gas activity.
Livestock Grazing	No effect on grazing use. Some additional costs to livestock operators due to vehicular access restrictions.	No effect on grazing.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

SUMMARY OF WSA - SPECIFIC PUBLIC COMMENTS

The Rock Springs District has produced two draft Wilderness EIS's. The first one was published in January 1983, the revised draft was published in September 1988 to reflect changes that had occurred in the District's WSA's since the first draft, mostly the expiration of pre-FLPMA leases and the abandonment of a railroad bed that separated two WSA's. Public involvement occurred throughout the wilderness review process of both EIS's.

Inventory: Public involvement occurred throughout the wilderness review process. Certain comments received during the inventory process and comment period were used to develop significant study issues and various alternatives. Open houses and public meetings were held throughout the district over a period of several years with final decisions published in the spring of 1981. A supplemental evaluation of this particular unit confirmed that several mapping errors and omissions were made as to the extent of human activity. Subsequently, 2,329 acres were dropped from further study.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

WHITEHORSE CREEK WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 4,002 Acres

The Whitehorse Creek WSA (WY-040-325) includes 4,002 acres of BLM-administered public lands with no private or state inholdings (see Table 1). The area is located primarily in southeastern Fremont County, with some of the area extending into Sweetwater County. It is about 30 miles northeast of Farson, Wyoming. The WSA is bounded on the southeast by a jeep trail that separates this WSA from the Oregon Buttes WSA. The southwest boundary is a jeep trail. The north side is bounded by jeep trails and private lands and the east is bounded by the Continental Divide and private lands. All state and private lands along the boundary are excluded from the WSA (see map 1).

The unit contains a multitude of habitats and landscapes, including small groves of aspen and limber pine stands, high, sheer sandstone cliffs and an area of magnificent badlands topography.

A major portion of the WSA is made up of a group of eroding red, green, and gray buttes. Topography in the central and western sections consist of a flat, sage covered basin, rimmed by mud and clay escarpments rising up to 650 feet above the valley floor. The WSA contains important raptor habitat. Prairie falcons and red-tailed hawks have been found in the WSA.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA), and was included in the Rock Springs District Wilderness Environmental Impact Statement filed in October 1990. There were two alternatives analyzed in the EIS, including all wilderness and no wilderness, which is the recommendation of this report.

2. RECOMMENDATION AND RATIONALE -- 0 acres recommended for Wilderness
4,002 acres recommended for Nonwilderness

The recommendation for this WSA is to release the entire area for uses other than wilderness. The All Wilderness Alternative is considered to be the environmentally preferable alternative as it would result in the least change from the natural environment over the long term. The recommendation for this WSA would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

Although the wilderness values described in the 2(c) criteria of the Wilderness Act are present in the WSA, outstanding opportunities for solitude or primitive and unconfined recreation are not present to the degree deemed necessary for wilderness designation.

BLM's intensive inventory notes that opportunities for solitude and primitive recreation are particularly high in the southeast portion of the WSA, west of the Continental Divide and south of Pastel Butte, where the large escarpments and buttes are located. The remainder of the WSA consists of a flat, sage-covered basin that lacks interesting features and would not provide such exemplary opportunities.

There are also some conflicts with other resource uses occurring within the WSA. While the area is not currently used for any extractive commercial purposes, the potential for the production of natural gas has been rated as moderate throughout the WSA. The most probable recoverable reserves estimated to exist within the WSA is 6.2 BCF of natural gas. Seven wells and 3-5 miles of access road are projected to occur in this WSA. The recommendation for this WSA emphasizes maintaining access to these areas for natural gas exploration and extraction.

Manageability concerns also played a part in the nonwilderness recommendation. The central and western portion of the WSA consists primarily of a large sagebrush basin, with little topographic relief. Because there are no physical barriers to vehicle use in this portion of the WSA, it is likely that unauthorized vehicle use would continue in the area. Managing the WSA as wilderness, while not impossible, would require frequent seasonal patrols to regulate the off-road use by hunters and other off-road recreationists.

NONE	Recommended for Wilderness	NONE	Split Estate
	Recommended for Nonwilderness	NONE	State
NONE	Land outside WSA Recommended for Wilderness	NONE	Private

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MILES

Whitehorse Creek Proposal

WY–040–325
June,1990

Table 1

Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	4,002
Split Estate (BLM surface only)	0
Inholding (state, private)	0
Total	4,002
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholding (state, private)	0
Within the Area Not Recommended for Wilderness	
BLM	4,002
Split Estate	0
Total BLM Not Recommended for Wilderness	4,002
Inholding (state, private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The majority of the WSA is in a natural condition. There are a few two-track trails that enter the western flat portion of the WSA and some that lead up to the base of the buttes on the east side. There are also several reservoirs and other range improvements located in the western portion of the WSA.

B. **Solitude:** The Whitehorse Creek WSA has many opportunities for solitude. Opportunities for solitude are particularly high in areas west of the Continental Divide, north of Oregon Buttes, and south of Pastel Butte. The rugged terrain and the eroded escarpments provide opportunities to avoid the sights and sounds of others. From the top of the largest butte in the area, which rises 650 feet above the basin floor and 7,915 feet above sea level, a sense of isolation and solitude is felt as one looks down into the maze-like setting created by the eroded escarpments lining the Whitehorse Creek Basin.

C. **Primitive and Unconfined Recreation:** Opportunities for primitive and unconfined recreation include rock climbing and studying the unique badlands topography, nature and wildlife photography, bird watching, and big game hunting.

D. **Special Features:** The badlands within the WSA are laced with petrified wood, agate beds, and fossils of snails and clams, which provide outstanding rockhounding opportunities.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features as represented by ecosystems and landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). This WSA represents the Wyoming Basin Province Sagebrush Steppe ecosystem. This ecosystem is already represented, however, by one unit of the NWPS (Cloud Peak). Other BLM WSAs that are recommended for wilderness designation, including Honeycomb Buttes, Oregon Buttes, and the Sand Dunes all contain this ecosystem. This information is summarized in Table 2.

Table 2

Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas Area	NWPS Areas Acres	Other BLM Studies Area	Other BLM Studies Acres
Domain/Province/PNV				
NATIONWIDE				
Dry Domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
WYOMING				
	1	67,062	16	230,035

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The Whitehorse Creek WSA is within a day's driving time of two major population centers -- Salt Lake City-Ogden and Provo-Orem. There are currently 21 wilderness areas and 3 primitive area within a day's driving time of these population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3

Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas Area	NWPS Areas Acres	Other BLM Studies Area	Other BLM Studies Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. Balancing the geographic distribution of wilderness areas: The Whitehorse Creek WSA would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation in the NWPS.

Manageability (The area must be capable of being effectively managed to preserve its wilderness character.)

The Whitehorse Creek WSA is manageable as wilderness. However, concerns about development needs for other resource uses and the availability of vehicular access in the concerned areas are the primary manageability concerns.

The more rugged portion of the WSA would be relatively safe from any oil and gas exploration and development due to the badlands topography. In the less rugged areas, a lack of physical barriers and remote location would make it difficult to protect or defend this WSA against ORV use.

Energy and Mineral Resource Values

The Whitehorse Creek WSA contains both source rocks and potential reservoir rocks for oil and gas and is considered to have moderate development potential for oil and gas. the most probable recoverable reserves estimated to exist within the WSA is 6.2 BCF of natural gas. Two wells, drilled in excess of 11,000 feet just southwest of the WSA, tested good potentials in the deeper Cretaceous Formation. Only one of these wells was plugged as uneconomic. There are no wells within the WSA.

The Whitehorse Creek WSA has coal, oil shale, uranium, and gold present. However, their development potential is low. All of the WSA is included within a U.S.G.S. coal classification order and within a coal land withdrawal by Executive Order (November 15, 1910). There is a potential for the occurrence of a coal-bearing sequence at depths in excess of 2,300-5,000 feet. No coal beds outcrop within the WSA.

A large portion of the WSA has been staked for uranium and most of those claims were pre-FLPMA. At present, there is no development of uranium and potential is low for economic deposits of uranium. Several placer gold claims have been staked in the WSA, but no gold production has been reported.

Impacts on Other Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered, including designation or non-designation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative

Issue Topics	All Wilderness	Proposed Action (No Wilderness/No Action)
Impacts on Wilderness Values	Adverse impacts would occur to naturalness and solitude in the rest of the WSA in the long term. These values would be retained in the short term. 4,002 acres would be designated wilderness. Wilderness values would be protected in the WSA outside the ACEC (3,822 acres).	Wilderness values would be protected in the 160 acres in the ACEC.
Impacts on Mineral Resources	The area would be withdrawn from mineral leasing. Estimates of 6.2 BCF ($8,000,000) could possibly be foregone. No wells, new roads, or surface disturbance associated with mineral activity.	Entire area open to mineral leasing. Estimates of 6.2 BCF natural gas ($8,000,000) found in deeper formations could possibly be recovered, but not in the near future. Would be potential for 7 oil and gas wells to be drilled, resulting in 49 acres of surface disturbance.
Impacts on Recreation and Visual Resources	If oil and gas activity increased, would be a decrease in hunting qulaity and a decrease in hunter-days spent in the WSA.	No effect on recreation opportunities in in the WSA. Motorized vehicle use would be limited to existing roads and trails, and approximately 3 to 5 miles of new roads that would possibly exist from oil and gas development.
Entire Area VRM Class III and IV	Entire area VRM Class I.	No effect on recreation opportunities in the WSA, except elimination of motorized vehicle use in the area. Hunter-days would decrease since hunters would not be able to use motorized vehicles in the WSA.
Impacts on Vegetation/Water/Soils	No adverse effect on vegetation, water, or soils. Less vehicle traffic would benefit these values.	Moderately adverse impacts would occur to vegetation and minor adverse impacts to soil if oil and gas activity increases in the WSA.
Impacts on Wildlife Values	No effect on wildlife, including big game.	Some displacement of elk and deer in the WSA. Topography, seasonal restrictions, and NOS restriction in eastern part of WSA would mitigate impacts in elk calving area. Herd unit occupies a much larger area, so numbers would be affected.
Impacts on Livestock Grazing	Livestock operator's ability to maintain existing improvements would be impaired. Distribution of livestock and eventually carrying capacity and numbers would be reduced. Occasional inconvenience to livestock operators due to restriction on vehicle use.	No effect on grazing use. Livestock operator's ability to maintain existing range improvements and the possibility to to build more would be available.

Local Social and Economic Considerations

Local social and economic consideration were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA - Specific Public Comments

Inventory: Two comments, both from Wyoming, were received during the inventory phase. Both supported retention of the unit as a wilderness study area. Public comment and field inspection revealed a road leading to a reservoir and a large number of jeep trails. Although the area fell below the 5,000-acre minimum, its topography was found to be an extension of Oregon Buttes and the area was retained for study in conjunction with Oregon Buttes.

No comments were received during the MFP comment period.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

DEVILS PLAYGROUND - TWIN BUTTES WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 23,841 acres

The Devils Playground - Twin Buttes WSA (WY-040-401/402) is located in Sweetwater County, approximately 28 miles south, southwest of the city of Green River and 8 miles north of Manila, Utah. The WSA contains 23,841 acres of which 1,280 acres are spilt estate (see Table 1). The eastern-most boundary lies 1 mile west of Flaming Gorge National Recreation Area, 2-track trails and a ridgetop furnish portions of the northern, southern and western boundaries (see Map 1).

The WSA is characterized by highly eroded badlands devoid of vegetation with scattered patches of sagebrush, grass, and juniper. The most prominent points are Black Mountain and Twin Buttes, both large mesas which are located in the west central and southern portions of the WSA.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act and was included in the Rock Springs District Environmental Impact Statement (EIS) filed in October 1990. There were two alternatives analyzed in the EIS, including All Wilderness, which is the recommendation in this report and No Wilderness.

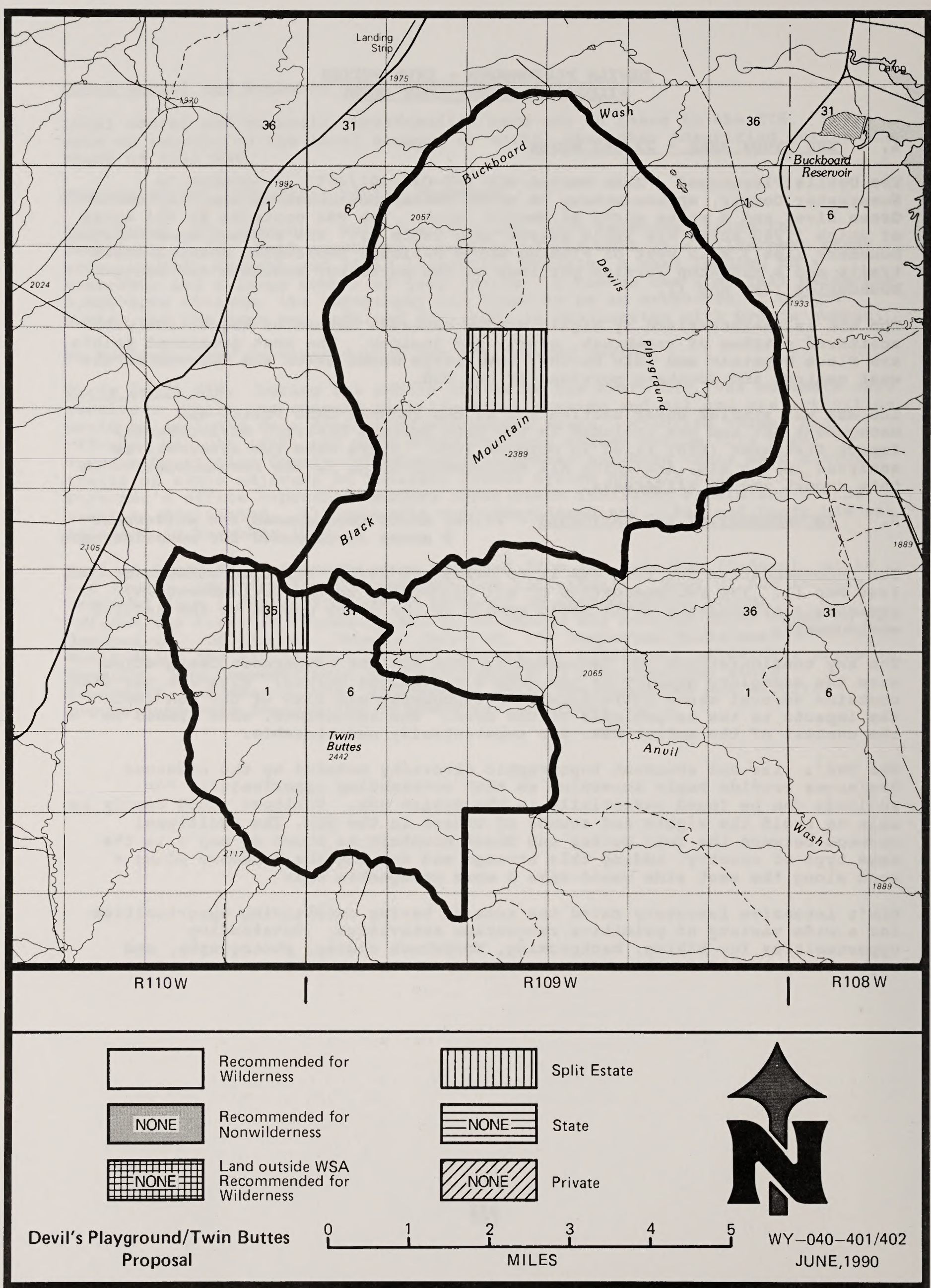
2. RECOMMENDATION AND RATIONALE - 23,841 acres recommended for wilderness
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate 23,841 acres as wilderness (see Map 1). The recommendation of all wilderness is the environmentally preferable alternative as it would result in the least change to the natural environment.

The key considerations for recommending this WSA for wilderness designation were the exemplary quality of the area's wilderness values. Although the area contains several minor intrusions, the topography and size of the WSA limit the impacts to the naturalness of the area. The intrusions, when viewed in the context of the entire WSA, are substantially unnoticeable.

The WSA's size and abundant topographic diversity created by the numerous drainages provide ample screening so that outstanding opportunities for solitude can be found essentially in the entire WSA. Visitors would easily be able to avoid the sights and sounds of others in the WSA. The additional acreage between the Twin Buttes and Black Mountain as shown on map 1 is the same type of country. Adding this acreage and drawing the boundary along a road along the east side would make a more manageable unit.

BLM's intensive inventory rated the area as having outstanding opportunities for a wide variety of primitive recreation activities. Outstanding opportunities for hiking, backpacking, horseback riding, photography, and sightseeing abound in this WSA.



Devil's Playground/Twin Buttes Proposal

WY–040–401/402
JUNE, 1990

TABLE 1

Land Status and Acreage Summary of the Study Area

Within the Wilderness Study Area	Acres
BLM (surface and subsurface)	22,561
Split Estate (BLM surface only)	1,280
Inholding (state, private)	0
TOTAL	23,841
Within the Recommended Wilderness Boundary	
BLM (within WSA)	22,561
BLM (outside WSA)	0
Split Estate (within WSA)	1,280
Split Estate (outside WSA)	0
Total BLM Lands Recommended for Wilderness	23,841
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate (federal surface)	0
Total BLM Lands not Recommended for Wilderness	0
Inholding (state, private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness:** The WSA is essentially natural in character, although it includes 23 seismic and 2-track trails, 17 reservoirs, and 2 fences. The seismic trails and 2-track trails vary from faint and obscure to bladed scars and substantially unnoticeable roads.

The area is characterized by highly eroded badlands areas surrounding two large mesas of high relief. Elevation ranges from 6,200 feet in the northern washes of Devils Playground to 8,012 feet on the Twin Butte mesa.

Very little vegetation grows on the badlands which comprises the vast majority of the WSA. However, there are some pockets of sagebrush, saltbush and juniper.

B. **Solitude:** Devils Playground-Twin Buttes WSA's topography and size combine to disperse use providing ample opportunities to experience solitude. Present recreation use of the WSA consists mainly of hunting activities and off road vehicles traversing the area. Some overflow use from the Flaming Gorge National Recreation Area is occurring in the form of off highway driving and sightseeing. This use may increase as the popularity of the Flaming Gorge area increases.

C. **Primitive and Unconfined Recreation:** The WSA offers outstanding opportunities for primitive and unconfined recreation. Camping, rockhounding and hiking occur on an infrequent basis. Antelope and deer hunters utilize the area and there is some opportunity for hunting coyotes. Most off-road vehicle use has been related to hunting activities.

D. **Special Features:** The area has interesting and unusual geologic features. Fossil deposits and evidence of early man can be found throughout the WSA. Indians pursuing a nomadic, hunter-gatherer lifestyle occupied the area continuously for 9,000 years. The Pine Springs archeological site, a cultural ACEC, is adjacent the WSA. The southeast flanks of Black Mountain are covered by one of the most extensive (and significant) tipi ring sites in southwestern Wyoming. Existing cultural resource data supports the conclusion that the WSA is a sensitive area of highly significant values.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features, as represented by Ecosystems and Landforms:** Wilderness designation of this WSA would add to the ecosystem diversity currently in the NWPS. Devils Playground-Twin Buttes is representative of the Sagebrush Steppe ecosystem in the Wyoming Basin Province ecoregion. Sixteen areas currently under study represent this ecosystem of which several have been recommended as suitable for wilderness (e.g., Honeycomb Buttes). It should be noted that Devils Playground-Twin Buttes WSA is the only example of badlands located west of the Green River in southwest Wyoming. See Table 2 for a summary of this information.

TABLE 2

Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas Areas	NWPS Areas Acres	Other BLM Studies Areas	Other BLM Studies Acres
Domain/Province/PNV				
NATIONWIDE				
Dry domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
WYOMING				
	1	67,062	16	230,035

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Day's Driving Time (5 hours) of a Major Population Center:** This WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5 hour drive of the population centers:

TABLE 3

Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas Areas	NWPS Areas Acres	Other BLM Studies Areas	Other BLM Studies Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	133	5,451,742

C. **Balancing the Geographic Distribution of Wilderness Areas:** Designation of Devils Playground-Twin Buttes as wilderness would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres). However, designation of the WSA would add a "cold" high desert badlands area to the system and diversify representation of ecosystems in the NWPS.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The area is manageable as wilderness. However, the boundary around most of the WSA is a dirt road; the road and the internal seismic trails are used by hunters and other incidental ORV users for access into the area. It would be necessary to increase periodic patrols,in addition to boundary signing, particularly during hunting season, to manage the area as wilderness. The state owned minerals in 3 sections would need to be acquired.

Energy and Mineral Resource Values

The U.S. Geological Survey prepared an open file report on geology, mineral resources, engineering geology and landscape geochemistry of Sweetwater-Kemmerer Area in 1976. That report is the primary source for the following discussion.

Exploration and geologic projections in the immediate area show no known recoverable reserves at the location of the WSA. Recoverable reserves have been assigned a value of zero.

The area is under an oil shale withdrawal (Executive Order 5327, May 20, 1930, and Public Land Order 4522, 1967) and is segregated from mining entry. Potential for development of oil shale is low; the deposits are low in grade and thin bedded so they're of little commercial interest.

Uranium, phosphates and coal are known to occur in the WSA but have low development potential. Coal is found in thin, discontinuous beds. The potential for trona development is moderate. Ninety- five percent of the study area is within the Green River Known Sodium Leasing Area. However, development is unlikely to occur in the foreseeable future as other sources of trona are being mined nearby which easily meets market demand.

The sand and gravel reserve, although substantial, has low potential for development since it is found on the mesa tops with steep terrain and is, at least for now, unaccessible.

Impacts of Other Resources

The following comparative impact table (Table 4) summarizes the effects on affected resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative

Issue Topics	No Wilderness	Proposed Action All Wilderness
Impact on Wilderness Values	Wilderness values would not be afforded statuatory protection. Most of the Wilderness values would remain because no long-term disturbance is expected and the recreation use of the WSA is not expected to change.	The area's wilderness values would be maintained because use of motor vehicles and development would be restricted.
Impact on Oil and Gas Exploration and Production	No exploration or production of oil and gas is anticipated from the WSA. The opportunity for oil and gas development would be maintained should technology improve chances of finding new or recovering current reserves.	Surface occupancy for exploration and production would be prohibited; however, no production loss would occur because recoverable reserves in the WSA are estimated as zero.
Impact on Wildlife Habitat and Populations	There would be no effect on wildlife habitat or populations because change in use of the WSA is anticipated.	There would be no impacts to wildlife habitat or populations because no additional surface disturbance or changes in use of the WSA are expected.
Impact on Recreation Opportunities	There would be little change in the uses of the WSA. The Flaming Gorge National Recreation Area, which is in the immediate vicinity, has a much greater drawing power and receive a much higher level of recreational use in numbers of visitors.	There would be no effect on recreation opportunities because the levels and types of use in the WSA are very low and would be easily accomodated in nearby areas.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement occurred throughout the wilderness review process. Certain comments received during the inventory process and comment period were used to develop significant study issues and various alternatives. Open houses and public meetings were held throughout the district over a period of several years with final decisions published in the spring of 1981. A supplemental evaluation of this particular unit confirmed that several mapping errors and omissions were made as to the extent of human activity. Subsequently, 2,329 acres were dropped from further study.

Early Draft EIS: During the public review of the Draft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-road vehicle (ORV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: Comments were received from 455 agencies (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

RED CREEK BADLANDS WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA -- 8,020 ACRES

The Red Creek Badlands WSA (WY-040-406) is located in Sweetwater County, approximately five miles north of the Utah-Wyoming border and 35 miles south of Rock Springs. The WSA contains 8,020 acres of BLM lands and 640 acres of state land (see Table 1). The northwest boundary point of the WSA is an unnamed dirt road, which follows an unnamed ridgetop southeast to a two-track trail and then south to County Road 4-27. Red Creek Ranch is adjacent to the southern boundary and Beef Steer Creek and another unnamed ridgetop constitute the western boundary (see Map 1).

The Red Creek Badlands WSA is a highly scenic area, a valuable wildlife area, and a popular hunting area. The WSA is a fragile watershed and contains highly erodible red shales and sandstones ranging in elevation from 7,000 to 7,900 feet. Vegetation varies from greasewood in the draws and sagebrush on bench areas, to juniper on the upper slopes.

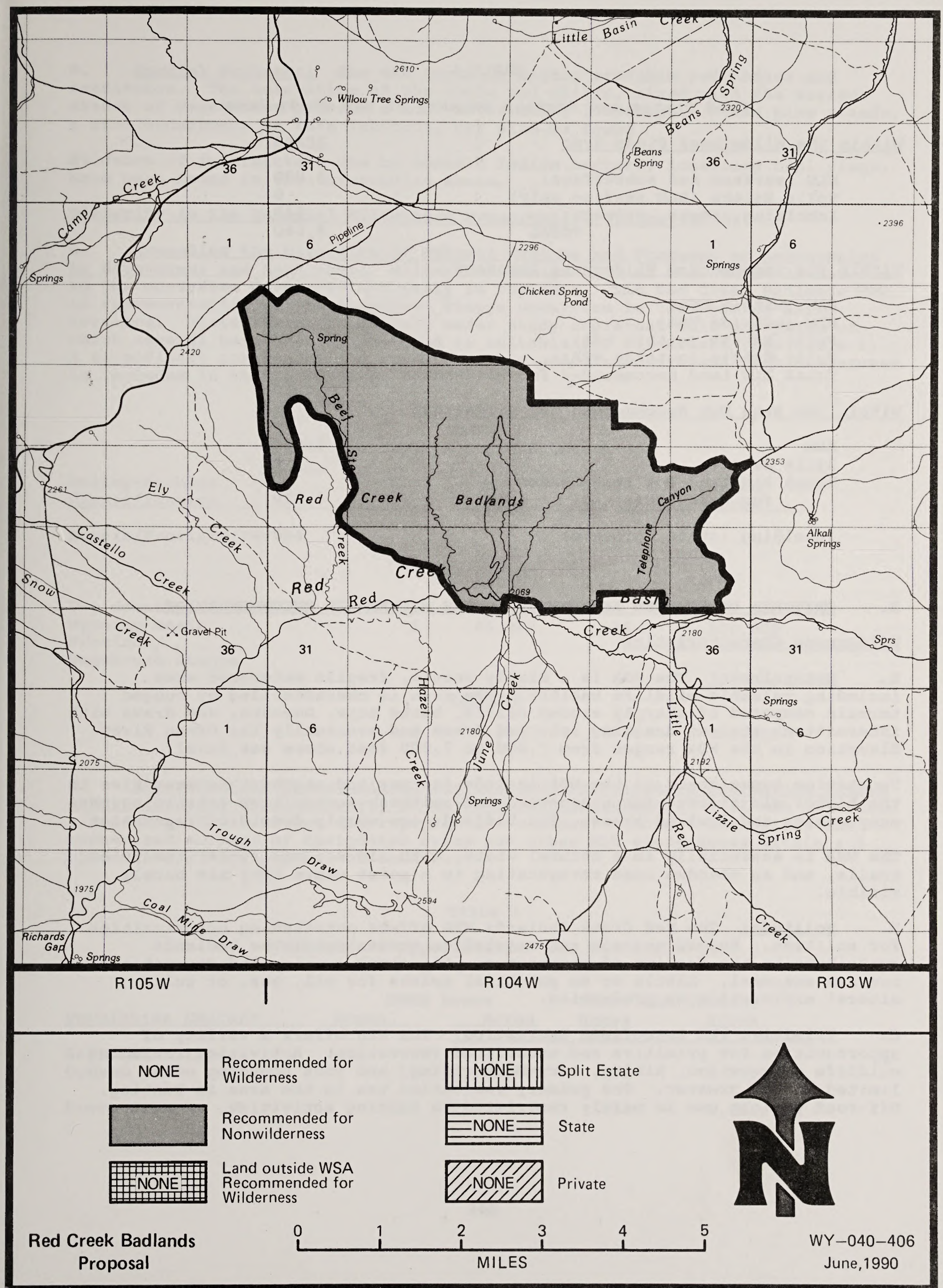
The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Rock Springs District Environmental Impact Statement (EIS) filed in October 1990. There were two alternatives analyzed in the EIS, including All Wilderness and No Wilderness, which is the recommendation in this report.

2. RECOMMENDATION AND RATIONALE -- 0 acres recommended for wilderness
8,020 acres recommended for nonwilderness

The recommendation for this WSA is to release 8,020 acres for uses other than wilderness (see Map 1). The All Wilderness Alternative is considered to be the environmentally preferable alternative as it would result in the least change from the natural environment over the long term. The recommendation for this WSA would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

The possible need for erosion control measures in the WSA was the primary factor in arriving at the nonwilderness recommendation. The WSA is part of a fragile watershed with excessive natural erosion. Natural erosion contributes sediment and salts to the Green River and eventually to the Colorado River system.

Designation of this WSA as wilderness would limit BLM's ability to implement erosion control measures. About 92% (7,380 acres) of the WSA are included in the 59,532 acre Red Creek Watershed Area of Critical Environmental Concern (ACEC). The intent of the ACEC is to aggressively manage the area to improve water quality through reduction of salinity and silt loads now affecting the Green River and Colorado River system. Although no erosion control projects have been planned within the WSA, some may be needed in the future. Wilderness designation could hamper future efforts to reduce salinity and silt loads now being deposited in the Green River.



Red Creek Badlands Proposal

WY–040–406
June, 1990

TABLE 1

Land Status and Acreage Summary of the Study Area

Within the Wilderness Study Area	Acres
BLM (surface and subsurface)	8,020
Split Estate (BLM surface only)	0
Inholding (state, private)	640
TOTAL	8,660
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Spilt Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for wilderness	0
Within the Area Not Recommended for Wilderness	
BLM	8,020
Split Estate	0
Total BLM Land Not Recommended for Wilderness	8,020
Inholding (state, private)	640

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

Wilderness Characteristics

A. **Naturalness:** The WSA is a highly scenic, fragile watershed area including valuable wildlife habitat. The area is characterized by rugged terrain composed of sharply eroded cliffs, butte tops, benches, and draws with intermittent streams draining into Red Creek and eventually the Green River. Elevation in the WSA ranges from 7,000 to 7,900 feet above sea level.

Vegetation types found in the WSA include juniper and sagebrush communities in the higher elevations with greasewood and saltbush communities inhabiting the many washes and lowland areas. The badlands are mostly devoid of vegetation.

The WSA is essentially in a natural state, with old seismic lines, two-track trails, and an abandon road revegetating to a point where they are barely visible.

B. **Solitude:** The Red Creek Badlands WSA offers outstanding opportunities for solitude. Rugged terrain and vegetation screening of the badlands contribute to the feeling of remoteness. Livestock grazing and recreational use are seasonal. Little or no potential exists for oil, gas, or solid mineral exploration or production.

C. **Primitive and Unconfined Recreation:** The WSA offers a variety of opportunities for primitive and unconfined recreation. Activities including wildlife observation, hiking, horseback riding, and rock hounding occur on a limited basis, however. The primary recreation use in the area is hunting. Off-road vehicle use is mainly restricted to hunting activities.

D. **Special Features:** The WSA contains highly erodible red shales and sandstones. The coloration of the rocks and cliffs, mixed with the various shades of vegetation provide a most interesting landscape. Pinon pine stands, a rare occurrence at this latitude, can also be found.

Evidence of intermittent use by nomadic Indian hunters, including tipi rings, have been found in the surrounding areas.

Diversity in the National Wilderness Preservation System (NWPS)

A. **Expanding the Diversity of Natural Systems and Features as Represented by Ecosystems and Landforms:** Wilderness designation of the WSA would not add to the ecosystem diversity currently in the NWPS. The Red Creek Badlands WSA is representative of the Sagebrush Steppe ecosystem in the Wyoming Basin Province. Sixteen areas currently under study represent this ecosystem of which several have been recommended as suitable for wilderness (see table 2). A significant portion of the Forest Service administered Cloud Peak Wilderness is included in this ecosystem.

TABLE 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Domain/Province/PNV				
		NATIONWIDE		
Dry domain/ Wyoming Basin Province/ Sagebrush Steppe	1	67,062	16	230,035
		WYOMING		
	1	67,062	16	230,035

B. **Assessing the Opportunities for Solitude or Primitive Recreation Within a Day's Driving Time (5 hours) of Major Population Center:** This WSA is within a five hour drive of two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5 hour drive of the population centers:

TABLE 3
Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Salt Lake City-Ogden	18	1,925,081	151	5,705,086
Provo-Orem	21	2,225,116	333	5,451,742

C. **Balancing the Geographic Distribution of Wilderness Areas:** Designation of Red Creek Badlands as wilderness would not improve the balance of geographic distribution of wilderness. There are currently in excess of 4 million acres of designated wilderness in the vicinity of these population centers. Examples of regionally designated wilderness includes: Jedediah Smith (116,535 acres), Bridger Wilderness (428,087 acres), Fitzpatrick Wilderness (198,525 acres), High Uintahs Wilderness (160,615 acres), Naomi Wilderness (44,367 acres), Mt. Olympus (8,599 acres), Mt. Timpanogos Wilderness (10,749 acres), and the Twin Peaks Wilderness (13,109 acres).

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The Red Creek Badlands WSA is manageable as wilderness. Signing the boundaries would be necessary along with periodic patrols, particularly during hunting season. The area's naturalness and solitude would be maintained because of the lack of projected surface-disturbing activities. The likelihood of mineral development is very small.

Energy and Mineral Resource Values

The U.S. Geological Survey prepared an open file report on geology, mineral resources, engineering geology and landscape geochemistry of Sweetwater-Kemmerer Area in 1976. That report is the primary source for the following discussion.

The WSA is underlain by coal of unknown extent and most of the area is within a coal land withdrawal established by Executive Order of July 13, 1910. Carbonaceous shale and lenticular beds of coal are common in the upper 3,000 feet of the Wasatch formation.

Part of the WSA falls within an oil shale withdrawal (Executive Order 5327 and Public Land Order 4522), meaning the area is closed to mining claims. Expressions of public interest in oil shale development within the Rock Springs District indicate development interest focuses on deposits outside the WSA.

Development potential for trona is moderate; however, due to the thinner, deeper beds of mixed sodium and halite (salt), development is unlikely. Better sources of trona are nearby.

There are no known recoverable reserves of oil and gas in the WSA. No exploration or production is anticipated. There are no indications of other mineral values or public interest in other mineral values within the WSA.

Impacts of Other Resources

The following comparative impact table (Table 4) summarizes the effects on affected resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
Comparative Summary of Impacts by Alternative

Issue Topic	No Wilderness (No Action)	All Wilderness
Wilderness Values	Naturalness, solitude, and opportunities for primitive and unconfined recreation preserved because uses are not expected to change.	Naturalness, solitude, and opportunities for primitiv and unconfined recreation protected in the entire WS
Minerals	Most probable recoverable reserves: zero. No oil or gas recovered.	No oil and gas production foregone because projected recoverable reserves estimated at zero.
Livestock Grazing	No effect on grazing use.	Occasional inconvenience t livestock operator because of restrictions on motoriz vehicle use and nonimpairment criteria for new rang improvements.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

Summary of WSA-Specific Public Comments

Inventory: Public involvement occurred throughout the wilderness review process. Certain comments received during the inventory process and comment period were used to develop significant study issues and various alternatives. Open houses and public meetings were held throughout the district over a period of several years with final decisions published in the spring of 1981. This particular unit was reinventoried and as a result of public comments, the unit was reduced in size from 34,000+ acres to 8,020.

Early Draft EIS: During the public review of the Daft EIS, 565 comments were received. There was concern that livestock grazing and oil and gas activities would be excluded from designated wilderness areas. Wildlife values and off-highway vehicle (OHV) use were other concerns raised during this time. Wyoming Recreation Commission opposed wilderness anywhere there were historic trails or areas adjacent to National Forest System RARE II lands. The Governor's office expressed concern about State inholding should any of the areas be designated. All comments were considered and a Revised Draft EIS was released in November 1988.

Revised Draft EIS: 455 comments were received from agencies, (federal, state and local), organizations, businesses and individuals. Many of the letters received from individuals were in response to environmental groups' "Wilderness Alert" encouraging BLM to recommend all acreage under study to be designated. Of all the comments received, 74% supported wilderness designation for all 13 WSAs and 23% opposed any additional wilderness areas in Wyoming. Few comments were received addressing site-specific areas. Generally, industry opposed designation while environmental and wildlife groups supported designation of areas as wilderness.

SUMMARY ANALYSIS OF SPECIFIC WSA RECOMMENDATIONS

CASPER DISTRICT WSAs

GARDNER MOUNTAIN WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 6,423 acres

The Gardner Mountain WSA (WY-060-201) includes 6,423 acres of public lands with no state or private inholdings. The WSA is located 40 miles southwest of Buffalo and 72 miles northwest of Casper in Johnson County, Wyoming.

Private land borders the WSA on the north and west sides. A ranch road, which is located on public land, forms part of the southern boundary of the WSA, along with an imaginary line leading to the southeast corner of the WSA. This boundary was established to exclude impacts from man-made features. This line follows the bottom of a steep slope. The WSA is bounded on the east by state land and another ranch road on public land (see Map 1).

The area is generally rugged terrain of the southern Big Horn Mountains dominated by ponderosa pine, Douglas-fir, limber pine, scattered mountain mahogany, and meadows. Included in the WSA are the deep, steepwalled canyons of Beartrap Creek and the North Fork of the Red Fork of the Powder River, and their tributaries. The vegetative types and topography found in the WSA are typical of the lower elevations of the southern Big Horn Mountains.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA), and was included in the Buffalo Wilderness EIS filed in June 1986.

Two alternatives were analyzed for the Gardner Mountain WSA in the final wilderness EIS, as follows:

No Wilderness: No wilderness designation of 6,423 acres. Management would be as defined in the Buffalo RMP/EIS.

All Wilderness: Wilderness designation of the entire 6,423 acres of the WSA.

2. RECOMMENDATION AND RATIONALE - 0 acres recommended for wilderness
6,423 acres recommended for non-wilderness

The recommendation for the Gardner Mountain WSA is to release the entire area for uses other than wilderness. The environmentally preferable alternative is the all wilderness alternative as it would result in the least change from the natural environment over the long term.

The Gardner Mountain WSA is nonsuitable for wilderness designation for the following reasons:

Approximately 750 acres of commercial forestland and 980 acres of woodland provide for an annual sustained yield of 40 - 55 MBF of timber and 15 - 70 cords of firewood. The continued use of these resources is important to the local economy.

The vegetation and topography of the WSA are considered typical of those of the Big Horn Mountains. The WSA does not possess any unique or outstanding examples of resource values that are not found elsewhere within the Big Horn Mountains. The picturesque canyons of the WSA are its most dominant feature, but similar canyons can be found elsewhere within the Big Horn Mountains. The Cloud Peak Wilderness Area (19,500 acres) on nearby Forest Service lands adequately represents the area in the NWPS.

The addition of this WSA to the NWPS would not contribute to expanding the diversity of natural systems within the NWPS.

The Gardner Mountain WSA is representative of the Douglas-fir ecosystem, which is already well represented in the NWPS (see table 2).

There are abundant opportunities for solitude or primitive recreation within a day's drive of all major population centers near this WSA. There are between 2.2 and 4.0 million acres of designated wilderness within a day's driving time of each population center.

There has been very little local support for designation of this WSA as wilderness. The majority of public comment received favored the proposed action of no wilderness designation for the Gardner Mountain WSA.

The proposed management under the preferred alternative would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

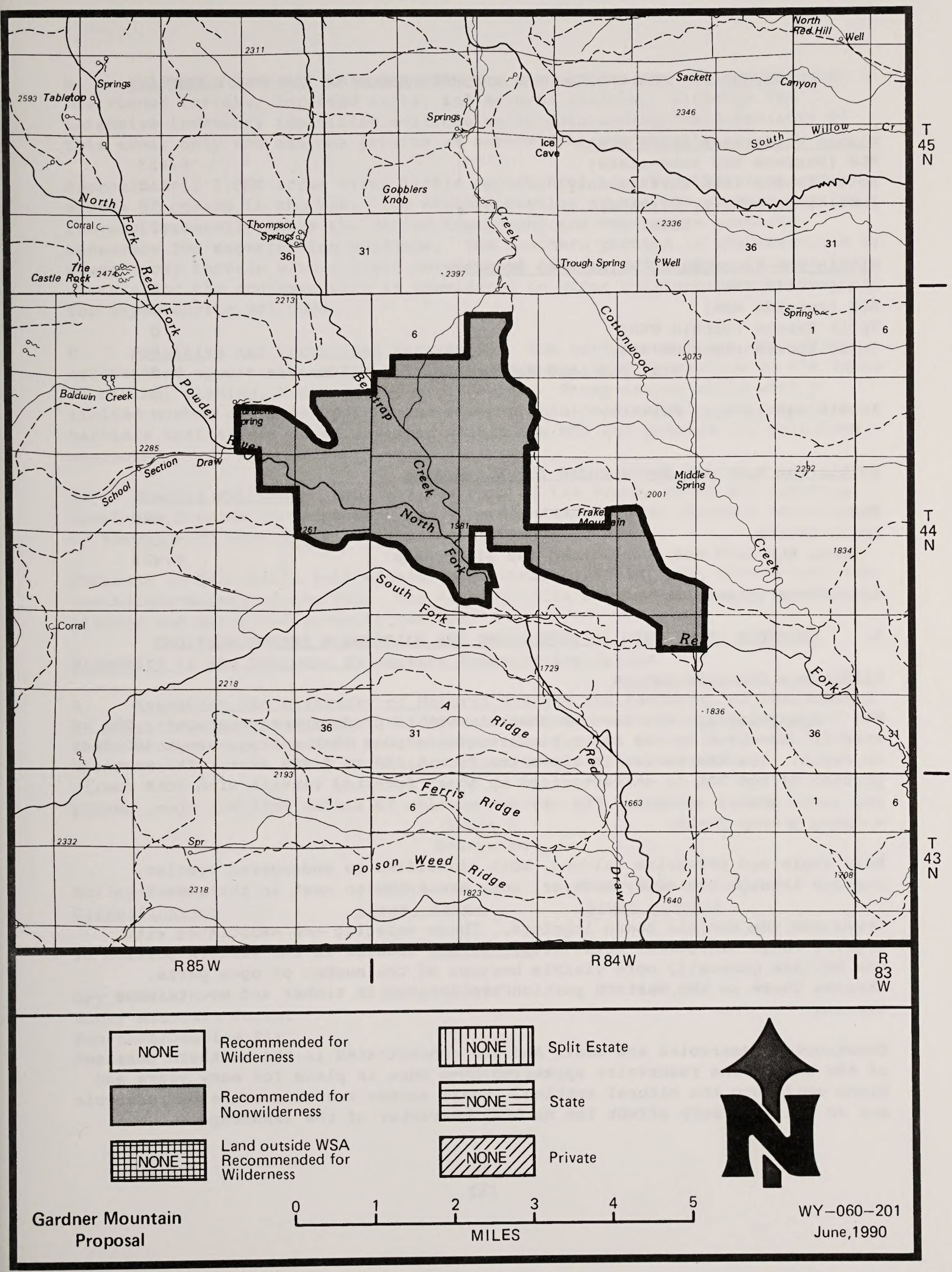

North Red Hill Well
Sackett Canyon
2346
South Willow Cr
Springs
2593 Tabletop
Springs
Ice Cave
Gobblers Knob
North Fork Red Fork Powder River
Corral
Thompson Springs
The Castle Rock
2474
36
31
2397
Creek
Trough Spring
2336
Well
36
31
T 45 N
2213
1
6
Cottonwood
2073
Spring
1
6
Baldwin Creek
Bertrap Creek
2285
School Section Draw
Middle Spring
2001
2292
Frakes Mountain
1981
261
North Fork
Creek
1834
South Fork
Corral
1729
Fork
2218
A Ridge
1836
36
31
36
31
Red Draw
2193
Ferris Ridge
1663
1
6
1
6
T 44 N
2332
Spr
Poison Weed Ridge
2318
1823
1640
1708
T 43 N
R 85 W
R 84 W
R 83 W
NONE
Recommended for Wilderness
Recommended for Nonwilderness
Land outside WSA Recommended for Wilderness
NONE
Split Estate
NONE
State
NONE
Private
N
0 1 2 3 4 5
MILES
Gardner Mountain Proposal
WY–060–201
June,1990

TABLE 1 - LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

Within Wilderness Study Area	
BLM (surface and subsurface)	6,423
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	6,423
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	
0	
Within the Area not Recommended for Wilderness	
BLM	6,423
Split Estate	0
Total BLM Land not Recommended for Wilderness	6,423
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. Naturalness: The Gardner Mountain WSA is predominantly natural. The area is dissected by two major picturesque canyons that average about 400 feet in depth. The WSA varies in elevation from 5,700 to 7,800 feet. The eastern portion of the WSA is characterized by steep forested terrain with both small and large grassy meadows. The western portion is almost entirely open, gently sloping grassy parks.

Bald eagle and peregrine falcons, both classified as endangered species, migrate through the area; however, none are known to nest in the area.

There are few visible human imprints. Those existing are associated with ongoing range management activities. Fences located in the western portion of the WSA are generally more visible because of the number of open parks, whereas those on the eastern portion are located in timber and mountainous terrain.

Constructed reservoirs are small and are concentrated in the southern portion of the unit. The reservoirs appear to have been in place for many years and blend well into the natural setting. Small access routes serve each reservoir but do not adversely affect the natural character of the landscape.

B. **Solitude:** Overall this WSA offers opportunities for solitude because it has rugged terrain, forested areas, and several canyons. Although the intensive inventory identifies solitude as an outstanding characteristic of this area, only the canyons provide an outstanding opportunity.

Approximately 1,000 acres offer little opportunity to avoid the sights and sounds of others in the WSA. The western portion of the WSA, except for the canyons, generally lacks the varied topography and vegetative screening necessary for experiencing solitude. The southern portion is characterized by steep rocky terrain with a light covering of juniper and grass. Neither the western nor the southern part is considered to offer outstanding opportunities for experiencing solitude.

C. **Primitive and Unconfined Recreation:** The Gardner Mountain WSA offers outstanding opportunities for primitive and unconfined recreation in the forms of hiking, fishing, hunting, and sightseeing. Steep canyon walls with a limited number of access points and steep mountainous terrain are natural barriers that affect human movement within the WSA and enhance the primitive character.

D. **Special Features:** Both the Red Fork of the Powder River and Beartrap Creek are considered "important trout waters-fisheries of regional importance" by the Wyoming Game and Fish Department(WGFD).

Portions of Dull Knife Battlefield, a national historic site, extend into the southern boundary of the WSA. The historic site is significant to Wyoming history and early Indian-white battles.

Diversity in the National Wilderness Preservation System

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the NWPS. The Gardner Mountain of the Powder River WSA is in the Rocky Mountains Forest/Douglas-fir ecosystem.

Table 2
Ecosystem

Bailey-Kuchler Classification	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
		NATIONWIDE		
Dry Domain/ Rocky Mountain Forest Province/Douglas Fir Forest	18	1,349,971	23	199,380
		WYOMING		
	9	851,433	7	72,146

B. **Assessing the Opportunities for Solitude or Primitive Recreation within a Day's Driving Time (five hours) of Major Population Centers:** Two SMSAs, Billings, Montana, and Casper, Wyoming, are within a day's drive of the WSA.

Table 3
Wilderness Opportunities for Residents
of Major Population Centers

Population Centers	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, Wy	27	4,080,891	34	459,236
Billings, MT	12	4,808,142	9	137,427

C. **Balancing the Geographic Distribution of Wilderness Areas:** Designation of the Gardner Mountain WSA as wilderness would not improve the balance of the geographic distribution of wilderness. As of January 1985, there were 3,077,381 acres of designated wilderness and approximately 1,973,600 acres of administratively endorsed areas in Wyoming. The Cloud Peak Wilderness area lies 30 miles to the north of Gardner Mountain WSA.

Manageability

The WSA is considered manageable as wilderness. However, due to its narrow and erratic land configuration, management costs in personnel and associated costs would be exceedingly high.

Energy and Mineral Resource Values

The Gardner Mountain WSA contains no known or suspected deposits of any economic minerals. This includes oil and gas, uranium, and energy or critical minerals. There are no oil and gas leases in the area, and no notices of intent for exploration of locatable minerals have been filed for the area. There were no mining claims in the area as of January 23, 1985.

Impacts on Other Resources

The following comparative impacts table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4

COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVES GARDNER MOUNTAIN

Values Affected	Proposed Action No Wilderness	All Wilderness
Wilderness Values	Existing wilderness values found in the WSA would be preserved for at least the next year. In the absence of protective management, the eventual loss of wilderness character would be likely.	Wilderness values in the WSA would receive long-term protection as a result of wilderness designation.
Timber Production	Approximately 750 acres of commercial forestland and 980 acres of woodland would remain in the allowable timber harvest base. An annual sustained yield of 40 to 55 MBF on commercial lands and 15 to 70 cords on woodlands would be realized under this alternative.	Approximately 750 acres of commercial forestland and 980 acres of woodland would be removed from the timber harvest base. This would not have a significant adverse impact on timber production or on the local timber industry.
Livestock Grazing and Management	In the short term, livestock production would remain the same. In the long term, livestock production would increase from 389 AUMs to 425 AUMs. Operating costs of the grazing uniform inside and outside the WSA.	Same as the "no wilderness" alternative except that livestock operation costs on the portion of the allotments within the WSA would be $2.50 per AUM higher than on the portions outside the WSA.
Oil and Gas Exploration and Production	No effect on oil and gas exploration and production.	Oil and gas exploration would be foregone. Since potential for oil and gas discovery is virtually nonexistent, there would be no impact on production.
Recreation Use and Quality	Recreation use levels would be expected to increase from the current 500 to 2,500 visitor days per year by 1995. Recreation quality is expected to remain high.	Same as the "no wilderness alternative".
Water Quality	Existing water quality would be affected slightly by increased sediment loads from a future timber sale and increased visitation.	Same as the "no wilderness alternative," except water quality would be slightly highly because there would be no impacts from timber harvesting.
Big Game	Existing populations of 100 elk and 500 mule deer would be maintained.	Same as the "no wilderness alternative" except water quality would be slightly higher because there would be no impacts from timber harvesting.
Fisheries	There would be a reduction in trout populations along Beartrap Creek from 1162 trout per mile to 800 trout per mile.	Same as the "no wilderness" alternative.

Local Social and Economic Considerations

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

The recommendation for the Gardner Mountain WSA in this report is consistent with local, county, state and federal plans. Various government agencies were contacted, and no inconsistencies were found.

SUMMARY OF WSA-SPECIFIC PUBLIC COMMENTS

Inventory: No comments received during the inventory phase were deferred for consideration in the study.

Draft EIS: Comments received during RMP development dealt primarily with wilderness planning criteria. The BLM Solicited comments to help in identification of issues and public concerns. A total of 19 of the comments received concerning the Gardner Mountain WSA stated a preference for designation or nondesignation of the WSA as wilderness. Of these, 1 comment favored wilderness designation and 18 favored nondesignation. In other comments received, no preference for or against wilderness designation could be determined.

The comments opposed to designation said wilderness designation would have adverse effects on water quality, livestock, big game, and adjacent private lands. The comment supporting wilderness designation cited the need to protect more lands in their natural state for future generations.

The U.S. Environmental Protection Agency said that wilderness designation for the Gardner Mountain WSA would protect and improve water quality and other resources.

The Wyoming Governor's Office concurred with the recommendation for nondesignation and suggested that the BLM utilize existing authorities and special management practices to protect the significant natural values in the WSA.

The Wyoming Game and Fish Department said that the agency preferred "multiple use management" rather than a wilderness designation since designation would reduce hunter access and therefore wildlife management opportunities.

The Wyoming Recreation Commission said it is opposed to the designation of any additional wilderness areas within the state.

The Wyoming Department of Agriculture recommended nondesignation as wilderness for the WSA because the agency said the WSA does not meet established criteria.

The Water Quality Division of the Wyoming Department of Environmental Quality recommended wilderness designation for the WSA as a method of protecting water resources.

The Johnson County Commissioners said they have decided that there is no need to place these areas in a wilderness classification.

NORTH FORK OF POWDER RIVER WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 10,089 acres

The North Fork of the Powder River WSA (WY-060-202) includes 10,089 acres of public lands with no state or private inholdings. The WSA is located 30 miles southwest of Buffalo and 82 miles northwest of Casper in Johnson County, Wyoming.

Private and state land borders the WSA on all sides except for a portion on the east side, which is bordered by a ranch road on public lands. On the western border a "cherrystem" excludes a road and a stock watering pipeline from the WSA (see Map).

The WSA contains moderately steep forested terrain dominated by ponderosa pine, Douglas-fir and limber pine, interspersed with open grass-covered parks. Included in the WSA are two deep, rugged and scenic canyons-Pass Creek and the North Fork of the Powder River. The area is typical of that found in the southern Big Horn Mountains.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA), And was included in the Buffalo wilderness EIS filed in June, 1986.

Two alternatives have been analyzed for the North Fork of the Powder River WSA in the final wilderness EIS, as follows:

No Wilderness: No wilderness designation of 10,089 acres. Management would be as defined in the Buffalo RMP/EIS.

All Wilderness: Wilderness designation of the entire 10,089 acres of the WSA.

2. RECOMMENDATION AND RATIONALE - 0 acres recommended for wilderness 10,089 acres recommended for non-wilderness

The recommendation for the North Fork WSA is to release the entire area for uses other than wilderness. The environmentally preferable alternative is the all wilderness alternative as it would result in the least change from the natural environment over the long term.

The North Fork of the Powder River WSA is nonsuitable for wilderness designation for the following reasons:

Approximately 2,900 acres of commercial forestland and 3,950 acres of woodland containing an annual sustained yield of 261 MBF on commercial forestlands would be available for all types of forest management activities, including timber harvesting, thinning, and planting.

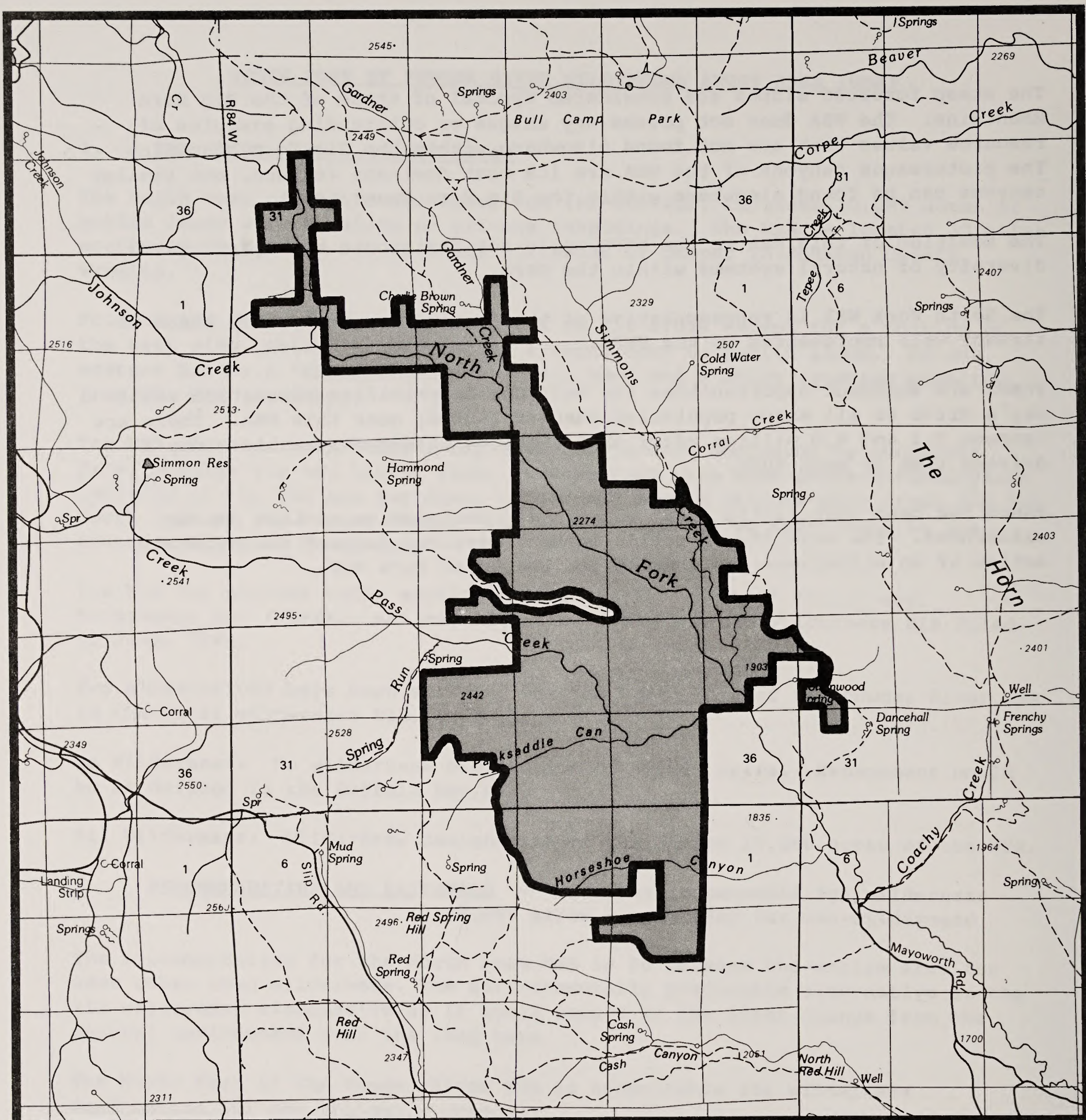
The steep forested slopes are considered typical of those of the Big Horn Mountains. The WSA does not posses any unique or outstanding examples of resource values that are not found elsewhere within the Big Horn Mountains. The picturesque canyons of the WSA are its most dominant feature, but similar canyons can be found elsewhere within the Big Horn Mountains.

The addition of this WSA to the NWPS would not contribute to expanding the diversity of natural systems within the NWPS.

The North Fork WSA is representative of the Douglas-fir ecosystem, which is already well represented in the NWPS.

There are abundant opportunities for solitude or primitive recreation within a day's drive of all major population centers (SMSAs) near this WSA. There are between 3.3 and 4.0 million acres of designated wilderness within a day's driving time of each SMSA.

There has been very little local support for designation of this WSA as wilderness. The majority of public comment received favored the proposed action of no wilderness designation for the North Fork WSA.



North Fork Proposal

WY–060–202
June, 1990

TABLE 1 - LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

Within Wilderness Study Area	
BLM (surface and subsurface)	10,089
Split Estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	10,089
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area not Recommended for Wilderness	
BLM	10,089
Split Estate 1/	0
Total BLM Land not Recommended for Wilderness	10,089
Inholdings (State, Private)	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. Naturalness: The North Fork of the Powder River WSA is predominantly natural, with several minor human imprints that are associated with range improvement facilities. The WSA is moderately forested on steeper slopes and grass covered on the gentler slopes. The area is dissected by four canyons, two major and two minor, all of which offer spectacular untouched natural scenery.

Bald eagles and peregrine falcons, both classified as endangered species, migrate through the area; however, none are known to nest in the area.

Most of the human imprints are associated with grazing management facilities: fences, reservoirs, windmill, and water trough. Several short vehicle routes that enter the WSA are associated with grazing management; the effects of these on naturalness are minor. Improvements are scattered throughout the WSA, not concentrated in any one area. Most of them have been in place for many years, and they generally blend well into the natural setting.

B. Solitude: The North Fork of the Powder River WSA contains outstanding opportunities for solitude. The WSA is very rugged, predominantly forested and bisected by several major canyons which provide numerous opportunities to avoid the sights and sounds of other visitors. Freedom of movement in and out of the major canyons is limited by the steep topography.

C. **Primitive and Unconfined Recreation:** The WSA offers outstanding opportunities for the user to experience primitive recreation because visitors can participate in hiking, backpacking, fishing, hunting, and sightseeing. Recreational use of the major canyons will be limited for the most part to canyon bottoms. Access points into those canyons are limited; the canyons are very steep and rocky.

D. **Special Features:** The entire North Fork WSA provides critical winter range for elk. The Wyoming Game and Fish Dept. has rated the North Fork of the Powder River Class II (fishery of statewide importance) and Pass Creek Class III (fishery of regional importance).

Diversity in the National Wilderness Preservation System

A. **Expanding the Diversity of Natural Systems and Features, as Represented by Ecosystems and Landforms:** Wilderness designation of this WSA would not add a new ecosystem or landform to the NWPS. The North Fork of the Powder River WSA is in the Rocky Mountains Forest/Douglas-fir ecosystem.

Table 2
Ecosystem Representative

Bailey-Kuchler Classification	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
NATIONWIDE				
Dry Domain/ Rocky Mountain Forest Province/Douglas Fir Forest	18	1,349,971	23	199,380
WYOMING				
	9	851,433	7	72,146

B. **Assessing the Opportunities for Solitude or Primitive Recreation within a Day's Driving Time (five hours) of Major Population Centers:** Two SMSAs, Billings, Montana, and Casper, Wyoming are within a day's drive of the study area. There is currently 4.8 million acres of wilderness, respectively, within one day's drive of those SMSAs.

Table 3
Wilderness Opportunities for Residents of Major Population Center

Population Center Classification	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, WY	27	4,080,891	34	455,570
Billings, MT	12	4,808,142	9	133,761

C. Balancing the Geographic Distribution of Wilderness Areas

Designation of the North Fork WSA as wilderness would not improve the balance of the geographic distribution of wilderness. As of January 1985, there were 3,077,381 acres of designated wilderness and approximately 1,973,600 acres of administratively endorsed areas in Wyoming. The Cloud Peak Wilderness lies 20 miles north of the North Fork WSA.

Manageability

The WSA is manageable as wilderness. However, due to its narrow and erratic land configuration management costs in personnel and associated costs would be exceedingly high.

Energy and Mineral Resource Values

Some potential exists for the occurrence of oil and gas beneath the eastern edge of the North Fork WSA. Portions of two post-FLPMA oil and gas leases containing the wilderness stipulation, extend into the WSA, covering approximately 150 acres.

No known or suspected deposits of locatable minerals in economic quantities are within the WSA. The potential for any energy or critical mineral resources within the North Fork WSA is considered extremely low. As of January 23, 1985, there were no mining claims within the WSA.

Impacts on Other Resources

The following comparative impacts table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4

COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVES NORTH FORK

Values Affected	Proposed Action No Wilderness	All Wilderness
Wilderness Values	Given the possibility of oil and gas exploration and development, timber harvesting, and the absence of protective management, the eventual loss of wilderness character would be likely.	Wilderness values in the WSA would receive long-term protection as a result of wilderness designation.
Timber Production	Approximately 2,900 acres of commercial forestland and 3,950 acres of woodland would remain in the allowable timber harvest base. An annual sustained yield of 261 MBF on commercial forestlands and up to 350 cords on woodlands would be realized under this alternative.	Approximately 2,900 acres of commercial forestland and 3,950 acres of woodland would be removed from the timber harvest base. This would result in a small adverse impact on timber production production and on the local timber industry.
Livestock Grazing and Management	In the short term there would be no change in livestock production. In the long term, to increase from 906 AUMs to 965 AUMs. Operating costs of the grazing leases would be uniform inside and outside the WSA.	Same as the "no wilderness" alternative except operation costs within the WSA would be $2.50 per AUM higher than those outside the WSA.
Oil and Gas Exploration and Production	No effect on oil and gas exploration and production.	Oil and gas exploration would be foregone. Production of oil and gas is not expected.
Recreation Use and Quality	Recreation use levels would be expected to increase from the current 500 to 2,500 visitor days per year by 1995. Recreation quality is expected to remain high.	Same as the "no wilderness alternative."
Water Quality	Existing water quality would be affected slightly by increased sediment loads from a future timber sale and increased visitation.	Same as the "no wilderness alternative," except water quality would be slightly higher because there would be no impacts from timber harvesting.
Big Game	Existing populations of 350 mule deer and 100 elk would be maintained. Temporary displacement of elk and mule deer would result from a timber sale, camping areas, and oil and gas activity.	Same as the "no wilderness" alternative except impacts associated with timber harvesting and oil and gas activity would not occur.
Fisheries	Trout populations along Pass Creek would be reduced by 180 trout per mile.	Same as the "no wilderness alternative.

LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

Local social and economic considerations were not an issue in the EIS. There were no impacts to the local economy or social character identified during the study of this WSA.

The recommendations for North Fork of the Powder River WSA in this report are consistent with local, county, state, and federal plans. Various government agencies were contacted, and no inconsistencies were found

Summary of WSA-Specific Public Comments

Inventory: No comments received during the inventory phase were deferred for consideration.

Draft EIS: Comments received during RMP/EIS development dealt primarily with wilderness planning criteria. The BLM EIS Solicited these comments to help in identification of issues and public concerns. A total of 25 of the comments received concerning the North Fork WSA stated a preference for designation or nondesignation of the WSA as wilderness. Of these, 6 comments favored wilderness designation and 19 favored nondesignation. In other comments received, no preference for or against wilderness designation could be determined.

Comments received at the public hearings in Buffalo and during the comment periods totaled 20 oral and written comments.

The U.S. Environmental Protection Agency said that wilderness designation for the North Fork WSA would protect and improve water quality and other resources.

The Wyoming Governor's Office concurred with the recommendation for nondesignation and suggested that the BLM utilize existing authorities and special management practices to protect the significant natural values in the WSA.

The Wyoming Game and Fish Department recommended that the North Fork WSA be considered for inclusion in the NWPS.

The Wyoming Recreation Commission said it is opposed to the designation of any additional wilderness areas with the state.

The Wyoming Department of Agriculture recommended nondesignation as wilderness for the WSA because the agency said the WSA does not meet established criteria. The Water Quality Division of the Wyoming Department of Environmental Quality recommended wilderness designation for the WSA as a method of protecting water resources.

The Johnson County Commissioners said they have decided that there is no need to place these areas in a wilderness classification.

FORTIFICATION CREEK WILDERNESS STUDY AREA (WSA)

1. THE STUDY AREA - 12,419 acres

The Fortification Creek WSA (WY-060-204) includes 12,419 acres of public lands and one state owned inholding of 640 acres. The WSA is located 36 miles northeast of Buffalo, in northeastern Johnson County and northwestern Campbell County, Wyoming (see Map 1).

Private land borders the WSA on the north and east. On the south and west, additional public lands separated from the WSA by oil fields and ranch roads serve as boundaries, along with private land. An inholding of 640 acres of state land lies in the north central portion of the WSA.

The landscape of the WSA is steeply sloping, highly dissected, and gullied terrain. Narrow ridges and numerous drainages dominate the WSA. Bull Creek, Little Bull Creek, and Deer Creek, which are the main drainages, traverse most of the WSA. Vegetation consists of juniper, sagebrush, and grasses. The larger drainages contain moderate to heavy outcroppings of juniper. The rest of the WSA contains grasses and sagebrush dotted with small clusters of juniper.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Buffalo Resource Area Wilderness Environmental Impact Statement filed in June 1986.

Three alternatives have been analyzed for the Fortification Creek WSA in the final wilderness EIS, as follows:

No Wilderness: No wilderness designation of 12,419 acres. Management would be as defined in the Buffalo RMP/EIS.

All Wilderness: Wilderness designation of the entire 12,419 acres of the WSA.

No Wilderness, with no surface occupancy. No wilderness designation of 12,419 acres. Oil and gas exploration and development would be permitted but surface occupancy would be prohibited.

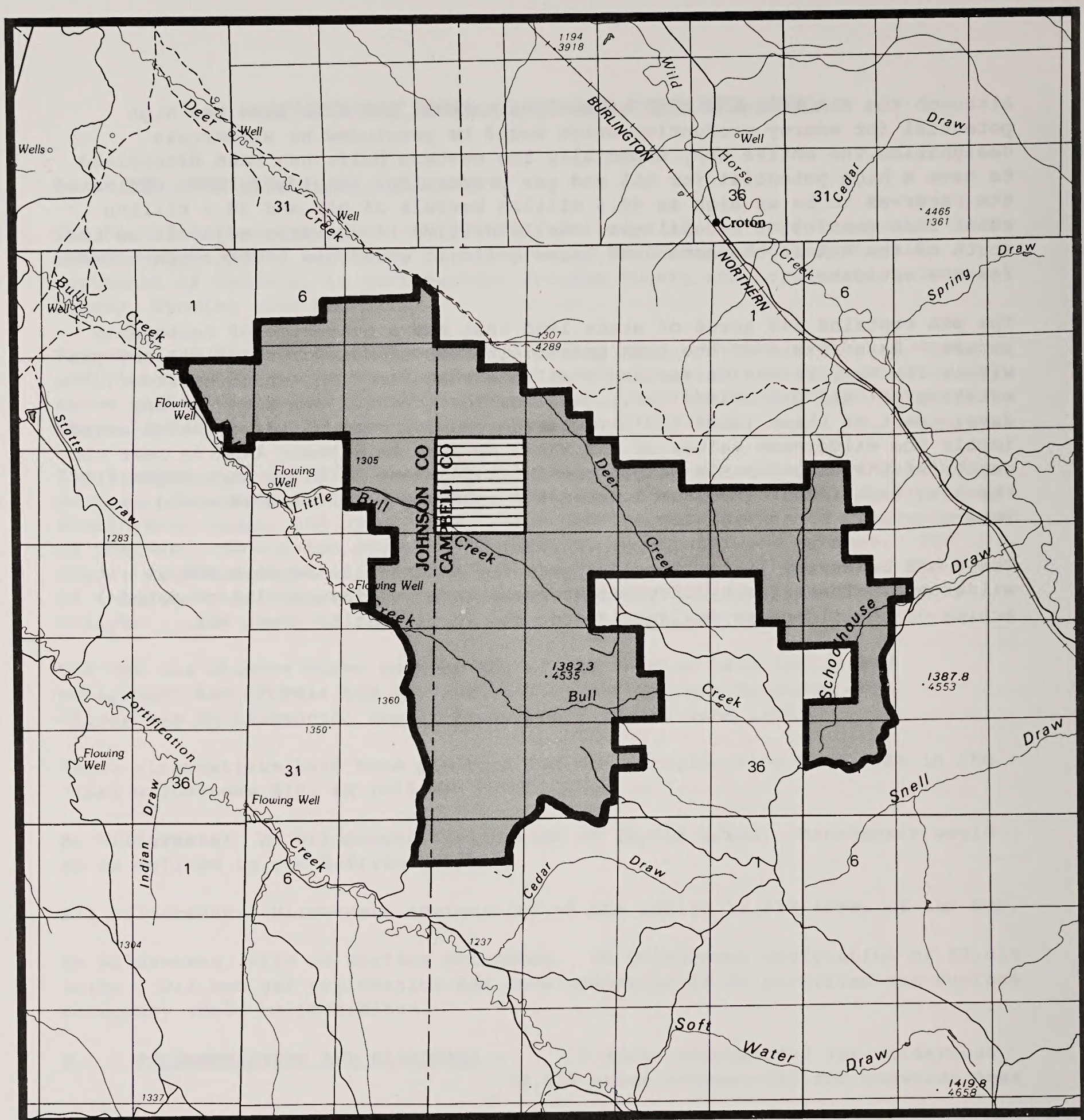
2. RECOMMENDATION AND RATIONALE - 0 acres recommended for wilderness
12,419 acres recommended for nonwilderness

The recommendation for this WSA is to release the entire area for uses other than wilderness. The environmentally preferable alternative is the all wilderness alternative as it would result in the least change from the natural environment over the long term. Although the recommendation is not the all wilderness alternative, the recommendation for this WSA would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

Although the WSA contains high wilderness values, the area also has high potential for energy production which would be precluded by wilderness designation.The entire WSA, especially the western half, has been determined to have a high potential for oil and gas production. Engineers have estimated the reserves to be as high as 44.4 million barrels of oil and 39.6 billion cubic feet (mmcf) of natural gas. Wells drilled in the area adjacent to the south of the WSA in the Amos Draw known geologic structure (KGS) support these reserve estimates.

The WSA contains 640 acres of state land that has a guarantee of reasonable access. As a result of the high probability for the discovery of oil and gas within the WSA, it can be assumed that this state section, which has two existing oil and gas leases on it, will be developed in the future. Any development of these lands would require extensive road building, which would impair the wilderness values of the WSA. Because this state land is near the center of the WSA, the BLM cannot prevent impairment of wilderness values in the long term. Therefore, impacts on the management of the area would be severe.

There has been very little local support for designation of this WSA as wilderness. The majority of public comment received favored the proposed action of no wilderness designation for the Fortification Creek WSA.



NONE — Recommended for Wilderness

Recommended for Nonwilderness

NONE — Land outside WSA Recommended for Wilderness

NONE — Split Estate

State

NONE — Private

0 1 2 3 4 5
MILES

Fortification Creek Proposal

WY–060–204
June, 1990

TABLE 1 - LAND STATUS AND ACREAGE SUMMARY OF THE STUDY AREA

Within Wilderness Study Area	
BLM (surface and subsurface)	12,419
Split Estate (BLM surface only)	0
Inholdings (State, Private)	640
Total	13,059
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area not Recommended for Wilderness	
BLM	12,419
Split Estate	0
Total BLM Land not Recommended for Wilderness	12,419
Inholdings (State, Private)	640

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness:** The Fortification Creek WSA appears to have been primarily affected by the forces of nature, with little evidence of human imprints. The natural character of the land has been maintained and preserved because of the area's ruggedness.

Identifiable imprints are associated with range improvement projects such as reservoirs, fences, and associated vehicle routes. Outside sights and sounds affect most of the WSA to a moderate degree. Impacts are associated with sounds from railroads, views of high voltage power lines, county roads and adjacent oil development projects.

B. **Solitude:** The Fortification Creek WSA offers outstanding opportunities for solitude. The WSA contains steeply sloping and dissected drainages and ridges, which divide the area. In addition, with the major drainages there are numerous opportunities to experience solitude and avoid the sights and sounds of others within the WSA.

C. **Primitive and Unconfined Recreation:** The combination of size and ruggedness of terrain in the WSA affords outstanding opportunities for primitive and unconfined types of recreation. Opportunities exist for hiking, backpacking, hunting, horseback riding, and sightseeing.

D. **Special Features:** Approximately 99% of the WSA is considered crucial yearlong range for elk as designated by the Wyoming Game and Fish Department. Elk have historically used the area for winter range because of the available forage and cover.

Diversity in the National Wilderness Preservation System

A. **Expanding the diversity of natural systems and features, as represented by ecosystems and landforms:** The Fortification Creek WSA is representative of the Sagebrush Steppe ecosystem/Great Plains Shortgrass Prairie province. Designation of this WSA would add a new ecosystem to the NWPS-this ecosystem is not found in any designated wilderness or administratively endorsed area, or in any other WSA. However, the Sagebrush Steppe is represented by 76,699 acres under the NWPS and 4,356,340 acres of WSAs within the Intermountain Sagebrush Province, which is generally located in northern Nevada, eastern Oregon, and southern Idaho. This province is in the same division as the Great Plains Shortgrass Prairie, and they are similar in certain aspects.

Table 2
Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Dry Domain/ Great Plains	0	0	1	12,419
WYOMING				
Shortgrass prairie Province/sagebrush Steppe	0	0	1	12,419

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers:** The Fortification Creek WSA is within a day's driving time of two major population centers (SMSAs), Billings, Montana, and Casper, Wyoming. There are currently 3.5 and 4.0 million acres of designated wilderness, respectively, within one day's drive of those SMSAs.

Table 3
Wilderness Opportunities for Residents of Major Population Center

Population Center Classification	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Casper, WY	27	4,080,891	34	453,240
Billings, MT	4	2,294,377	9	131,431

C. **Balancing the Geographic Distribution of Wilderness Areas:** Designation of the Fortification Creek WSA as wilderness would not improve the balance of the geographic distribution of wilderness. As of January 1985, there were 3,077,381 acres of designated wilderness and approximately 1,973,600 acres of administratively endorsed areas in Wyoming. The nearest is the Cloud Peak Wilderness 50 miles to the west.

Manageability (the area must be capable of being managed to preserve its wilderness character)

The Fortification Creek WSA is manageable as wilderness. However, because of the WSAs location surrounded by private land, it would be more expensive in personnel costs to manage the area as wilderness.

Energy and Mineral Resource Values

Parts of three post-FLPMA oil and gas leases extend into the WSA, covering approximately 1,840 acres. The WSA is considered to have high potential for the discovery of oil and gas deposits. Reserve estimates are as high as 44.4 million barrels of oil and 39.6 mmcf of natural gas. Oil and gas exploration and development are intensive on lands adjacent to the Fortification Creek WSA (map).

No exploration for locatable minerals is known to have occurred, and no mining claims had been filed within the area as of March 1984.

Impacts on Other Resources

The following comparative impacts table (Table 4) summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

TABLE 4

COMPARATIVE SUMMARY OF IMPACTS BY ALTERNATIVES FORTIFICATION CREEK

Values Affected	Proposed Action No Wilderness	All Wilderness	No Wilderness with No Surface Occupancy
Wilderness Values	Wilderness values would be lost on 12,419 acres as a result of oil and gas development.	Wilderness values on 12,419 acres in the WSA would receive long-term protection through wilderness designation. designation. New ecosystem would be added to the NWPS.	Wilderness values would be preserved on 10,579 acres within the WSA. Development of three existing post-FLPMA leases would result in 11 acres of surface disturbance and wilderness values probably would be lost on the affected acreage.
Livestock Grazing and Management	Livestock production would decrease by 10 AUMs under the "most likely scenario" and by 40-50 AUMs under the "Maximum development scenario." Operating costs on all portions of the grazing leases would be uniform.	Livestock production would remain at current levels. Operation costs within the WSA would be $2.50/AUM higher than those outside the WSA.	Livestock production would remain at current levels. Operating costs would be uniform on all portions of the grazing leases.
Oil and Gas Exploration and Production	All oil and gas resources could developed, 80% by conventional "straight hole" drilling and 20% by directional drilling. This would result in more cost and difficulty than if all could be developed by conventional straight hole drilling.	Production from post-FLPMA leases would be limited to no more than 4.4 million barrels of oil and 4.0 mmcf of natural gas.	All the oil and gas could be developed; 90% by directional drilling (compared to 20% in the proposed action) and 10% by conventional straight hole drilling.
Recreation Use and Quality	The types of recreation use within the WSA would remain unchanged; the level of visitation would increase by at least 150 visitor days/ year. Recreation quality would be affected severely by expected oil and gas development.	The types of recreation use within the WSA would remain unchanged, with the level of visitation increasing by 150 visitor days in 1990. The quality quality of the recreation experience would remain high.	Recreation use levels in the WSA would be expected to increase by 150 visitor days/ year. The quality of the recreation experience would remain high.
Big Game	Under the "most likely scenario," a long-term loss of 400 acres of big game habitat would result in a decline of 25-50 deer and 10-25 elk. Under the "maximum" development scenario, " a long-term loss of 2,000 acres of big game habitat would result in a decline of 50-100 deer and 10-25 elk.	Population numbers for both deer and elk would remain constant, and big game habitat would be protected.	Big game habitat and populations would remain at current levels.

Local Social and Economic Considerations

Designation of the Fortification Creek WSA as wilderness would have no significant social effects.

Designation of this WSA as wilderness would cause an economic effect. Because the area has a high potential for oil and gas discovery, designation would result in potential loss of development and the associated jobs.

The recommendations for Fortification Creek WSA in this report are consistent with local, county, state, and federal plans. Various government agencies were contacted, and no inconsistencies were found.

Summary of Public Comments for the Fortification Creek of the Powder River WSA

Inventory: No comments received during the inventory phase were deferred for consideration.

Draft EIS: Comments received during RMP/EIS development dealt primarily with wilderness planning criteria. The BLM Solicited these comments to help in identification of issues and public concerns. A total of 25 of the comments received concerning the North Fork WSA stated a preference for designation or nondesignation of the WSA as wilderness. Of these, 6 comments favored wilderness designation and 19 favored nondesignation. In other comments received, no preference for or against wilderness designation could be determined.

Comments received at the public hearings in Buffalo and during the comment periods totaled 20 oral and written comments.

The U.S. Environmental Protection Agency said that wilderness designation for the North Fork WSA would protect and improve water quality and other resources.

The Wyoming Governor's Office concurred with the recommendation for nondesignation and suggested that the BLM utilize existing authorities and special management practices to protect the significant natural values in the WSA.

The Wyoming Game and Fish Department recommended that the WSA be managed to retain its primitive qualities, but under multiple use rather than wilderness designation.

The Wyoming Recreation Commission said it is opposed to the designation of any additional wilderness areas within the state.

The Water Quality Division of the Wyoming Department of Environmental Quality recommended wilderness designation for the WSA as a method of protecting water resources.

The Johnson County Commissioners said they have decided that there is no need to place these areas in a wilderness classification.

SUMMARY ANALYSIS FOR SPECIFIC WSA RECOMMENDATIONS

LEWISTOWN DISTRICT MONTANA

PRYOR MOUNTAIN WILDERNESS STUDY AREA

1. **THE STUDY AREA** - 12,575 acres - Montana
4,352 acres - Wyoming

The Pryor Mountain Wilderness Study Area (MT-067-206) is located along the mid-elevation, south-trending slopes of the Pryor Mountains. 12,575 acres of this WSA are located in Carbon County, Montana; the remaining 4,352 acres are in Bighorn County, Wyoming. The Wyoming acreage will be reported by Wyoming BLM (See Table 1). The nearest community is Lovell, Wyoming, approximately nine miles to the south. The 4,352 acres in Wyoming will be reported by the Wyoming BLM

The Sykes Ridge Road forms the WSA's eastern boundary; the Burnt Timber Canyon Road and Custer National Forest lands border the western side. The southern boundary is formed by a regularly used county road, as well as by legal ownership boundaries and topographic lines. The WSA averages 12 miles in length and 2 miles in width. Elevations range from around 8,480 feet at the north end (or head) of Big Coulee down to 3,780 feet in Big Coulee at the southernmost tip of the WSA.

The upper elevations of the Pryor Mountain WSA are characterized by patches of Douglas fir, particularly on the north slopes, with occasional open parks. Understory is generally sparse in the dense Douglas fir stands. Shrub species include snowberry, pinebark, spirea, and juniper. Limber pine is also present, along with bluebunch wheatgrass, needle-and-thread grass, bluegrasses, forbs, and sedges. In the open, unforested area, vegetation is composed primarily of shrubs and grasses. Big sagebrush and shrubby cinquefoil are the dominant shrubs. Grasses include mountain brome, Kentucky bluegrass, and bluebunch wheatgrass. Common forbs are balsamroot, geranium and Eriogonum.

The mid-elevations of the WSA consist mostly of mountain shrubs. Utah juniper occupies the upper elevations, gradually blending into mountain mahogany and eventually into big sagebrush. Black sage, rabbit brush, and skunkbrush sumac may also be present along with bluebunch wheatgrass, needle-and-thread grass, three-awn, and Sandberg bluegrass.

The Red Desert/saltshrub occurs on the lower elevations of the WSA. Vegetation is generally sparse and scattered. Saltbushes of the Atriplex genus compose the majority of the vegetation.

The WSA was studied under Section 603 of the Federal Land Policy & Management Act (FLPMA) and was included in the Billings Resource Management Plan Environmental Impact Statement (RMP/EIS), finalized and filed in November 1984. The Billings RMP/EIS addressed four alternatives: Two depicted an all-wilderness alternative of 16,927 acres; two included a no-wilderness alternative. In the Record of Decision for the Billings RMP/EIS, the all-

wilderness 16,927 acres were brought forward for further study. The Billings Resource Area Wilderness Final Environmental Impact Statement filed in June 1988 contains an all-wilderness alternative, which is the recommendation of this report, and a no-wilderness alternative.

There are an additional 822 acres of acquired lands recommended for wilderness designation included in this report.

2. **RECOMMENDATION AND RATIONALE** -- 12,575 acres recommended for wilderness
0 acres recommended for nonwilderness

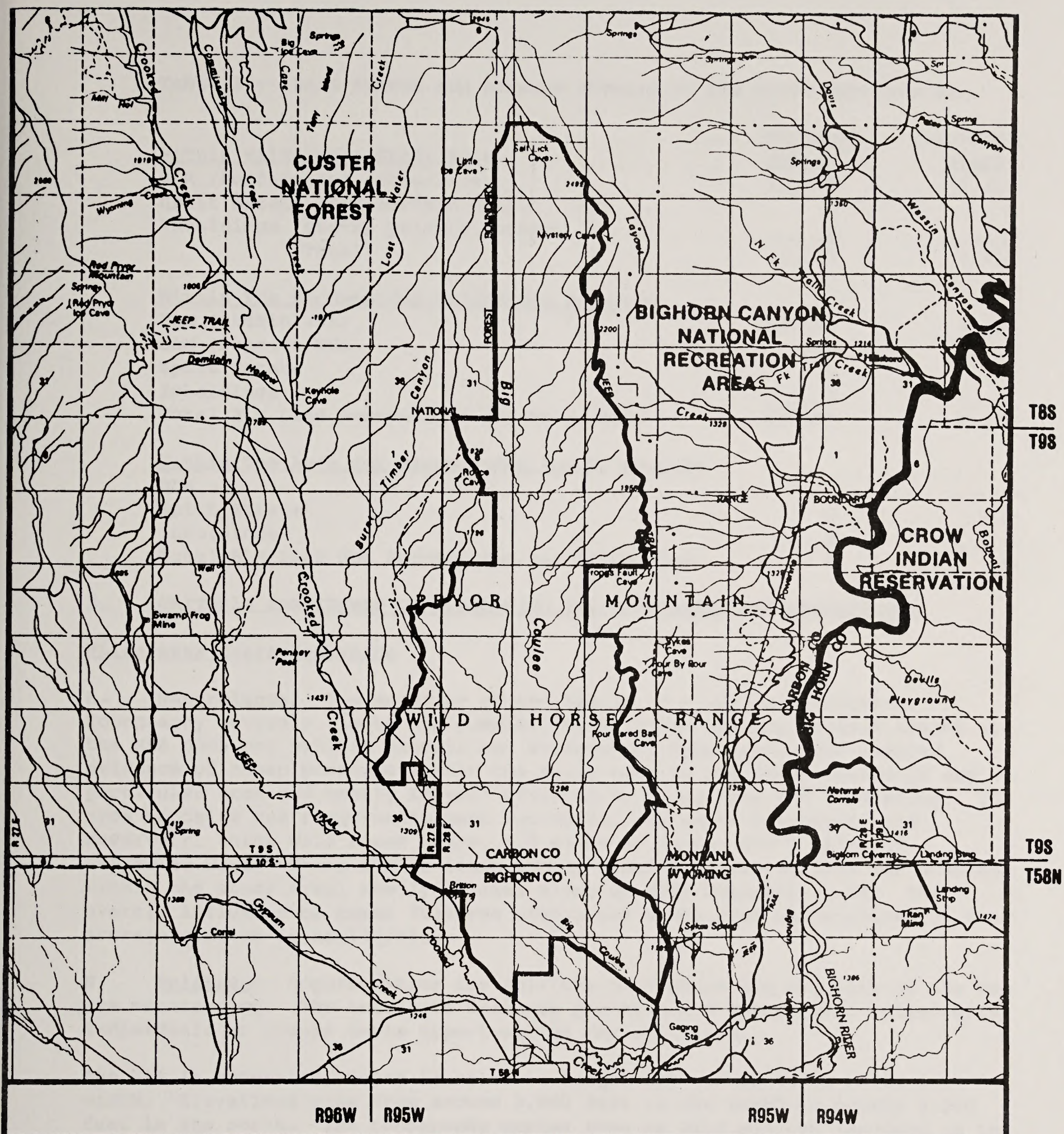
The recommendation for this WSA is to designate the entire area as wilderness, including the 4,352 acres in Wyoming. This is considered the environmentally preferable alternative as it will result in the lease change from the natural environment over the long term.

This WSA contains some of the most rugged, isolated Portions of the Pryor Mountain Range. The wide expanses and topographic screening in this area offer outstanding wilderness values. This unit is in the heart of the Pryor Mountain Wild Horse Range (PMWHR), and the supplemental attributes of free-roaming wild horse herds enhance the wilderness characteristics of the area. The few signs of human activity are well distributed throughout the WSA. Vegetation and topographic screening significantly limit any detractions from the WSA's extensive natural setting.

The rough, broken, and highly varied topographic features of the WSA provide excellent opportunities for isolation and solitude. The WSA exhibits a rapid elevation change, dropping from 8,400 to 3,800 feet in less than 13 miles. Its even, open ridge tops offer a strong sense of solitude and isolation; the southern aspect provides a vast panorama.

Opportunities for nature photography, rock climbing, hiking, backpacking, nature study, and viewing a variety of multicolored erosional geologic features are outstanding. The WSA contains a wide spectrum of geologic and biotic features, ranging from elements typical of desert environments to those found only in sub-alpine mountainous settings -- in less than 13 miles.

Conflicts with other resource uses in the WSA are minimal. Topography severely limits any potential cross-country vehicle travel. Commercial timber harvesting in the WSA is not allowed. There is no licensed livestock use in the WSA, nor are there any oil or gas leases. The development potential for petroleum resources is rated low to moderate. The WSA contains a major portion of the Pryor Mountain Wild Horse Range (PMWHR); however, since the management plan for the PMWHR was written with possible wilderness designation in mind, very little conflict exists with management of the wild horse range.



	RECOMMENDED FOR WILDERNESS	NONE	SPLIT ESTATE
NONE	RECOMMENDED FOR NONWILDERNESS	NONE	STATE
NONE	LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS	NONE	PRIVATE

-N-

Pryor Mountain Proposal

0 1 2 3 Miles
0 1 2 3 4 5 Kilometers

MT-067-206
SEPTEMBER, 1990

Table 1 -- Land Status and Acreage Summary of the Pryor Mountain WSA

	(Montana) Acres	(Wyoming) Acres
Within Wilderness Study Area		
BLM (surface and subsurface)	12,575	4,352
Split Estate (BLM surface only)	0	0
Inholdings (state, private, other)	0	0
Total	12,575	4,352
Within The Recommended Wilderness Boundary		
BLM (within WSA)	12,575	4,352
BLM (outside WSA)	822	0
Split Estate	0	0
Inholdings	0	0
Total BLM Land Recommended for Wilderness	13,397	4,352
Within The Area Not Recommended For Wilderness		
BLM	0	0
Split Estate	0	0
Inholdings	0	0
Total BLM Land Not Recommended for Wilderness	0	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness**: The majority of the WSA is in a natural condition. Topography severely limits any possibility of cross-country vehicle travel and the WSA does not exhibit significant evidence of human use. The limited evidence of human presence within the study area is not concentrated in any particular area and mostly is well screened by topography and vegetation. The area contains one range-management exclosure, one water catchment, one reservoir, three wild horse traps, 4.5 miles of fence. and 6 miles of vehicular ways. There are at least twenty-three prospecting pits for uranium within the study area, mostly located along or near boundary roads. The overall influence of human features within the study area as perceived by the average visitor is negligible.

B. **Solitude**: Opportunities for solitude throughout the majority of the WSA are outstanding. The intricate drainage patterns and topographic relief offer individuals or groups ample opportunities for isolation.

The WSA is extensive, being 13 miles in length and one to three miles in width. Elevations rise from around 3,800 feet in the south to nearly 8,500 feet in the north. The topography varies from an arid sonoran landform in the south, to mountain foothills in the central region, to densely forested mountains in the north. Each portion offers excellent opportunities for solitude.

The expanse of the southern portion compensates for its lack of vegetative screening. Patches of juniper and eroded hills provide some screening. The central portion is more broken with many patches of timber. The mountain topography in the north is characterized by steep cliffs, dense timber, and excellent opportunities for solitude.

Big Coulee is the major north-south drainage near the center of this WSA. This deep channel with an array of rugged side drainages would tend to spread users and increase opportunities for solitude.

C. **Primitive and Unconfined Recreation**: The WSA's foothills and canyons offer excellent opportunities for hiking, backpacking, nature and wildlife photography, rock climbing, nature study, and viewing geologic features.

Hunting opportunities would not be outstanding in relation to the higher forested areas to the north. Horseback riding opportunities would be excellent, but on a short-trip basis. The lack of water and grass would limit this activity unless hay was brought into the area. Water is available at only a few locations.

This WSA is located in the central portion of the Pryor Mountain Wild Horse Range and wild horses can be observed throughout the area, especially around watering places. The presence of wild horses is one of the major reasons for the current recreational use in the area.

D. **Special Features**: The designation of the Pryor Mountain Wild Horse Range, the first in the United States, is a noteworthy feature. The presence of wild horse herds, in association with native wildlife species, enhances the wilderness qualities of the area. Approximately 120 wild horses roam the PMWHR.

Several archeological sites have been found in this study area. Dominant site types are lithic scatters, some of which also contain hearths, and discarded or lost stone tools. Also, both vertebrate and invertebrate fossils have been found in the area. The Crooked Creek Natural Landmark is a National Register site for vertebrate fossils.

The primary big game species found in the study area are mule deer, Rocky Mountain bighorn sheep, and black bear. Mule deer are the most abundant of these species. Black bear are also quite abundant in the northern portion of the WSA; this area provides the necessary hibernating, forage, and cover requirements.

Diversity in the National Wilderness Preservation System

A. Expanding the diversity of natural systems and features as represented by ecosystems: Wilderness designation of the Pryor Mountain WSA would not expand the diversity of natural systems and features, as represented by ecosystems and landforms. This WSA is located within Ecoregion M 3110/11 Rocky Mountain Forest Province, Douglas Fir Forest (Bailey-Kuchler Ecosystems of the United States). Currently there are 17 areas in this ecoregion province are components of the National Wilderness Preservation System and 23 WSAs being considered for wilderness designation. Table 2 summarizes this information.

Table 2
Ecosystem Representation
(July 1990)

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
NATIONWIDE				
Rocky Mountain Forest Province/Douglas Fir Forest	14	1,046,482	12	98,328
MONTANA				
	3	142,874	11	101,052

B. Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers: The WSA is within five hours' driving time of three major population centers. Table 3 summarizes the number and acreage of designated and other BLM study areas within five hours' driving time of these cities.

Table 3
Wilderness Opportunities For Residents
Of Major Population Centers

Studies Population Centers	NWPS Areas areas	NWPS Areas acres	Other BLM areas	Other BLM acres
Billings, Montana	12	4,808,142	54	3,466,800
Great Falls, Montana	19	8,922,567	68	4,617,100
Casper, Wyoming	18	4,022,461	35	3,658,295

Table 4 - continued
Comparative Summary Of Impacts - Pryor Mountain WSA

Issues	Wilderness Alternative (Proposed Action)	No-Wilderness Alternative
Impacts on Mule Deer, Black Bear, and Bighorn Sheep Habitat and Populations	The proposed action will protect and preserve the existing habitat for mule deer, black bear, and bighorn sheep.	The existing habitat for mule deer, black bear, and bighorn sheep will be maintained.
Impacts on Peregrine Falcon Habitat and Population	The proposed action will protect and preserve peregrine falcon habitat and populations.	Peregrine falcon habitat would remain substantially unchanged. Expected effects are essentially the same as under the proposed action.
Impacts on Recreation Use	Fifty snowmobile user days will be forgone and annual nonmotorized use 3,000 visitors should rise by 2 to 3 percent for a decade, then return to a 1-to-2 percent annual increase. The opportunity to interpret one cultural site by signing will be forgone.	Annual recreational use of 3,000 visitor days will rise by 1 to 2 percent annually, and onsite interpretive signing of one cultural site will benefit users.
Impacts on Cultural Resources	Two significant archeological sites will be preserved and protected.	Two significant archeological sites will be preserved and protected. One signif- icant site will be interpreted for public education.

Local Social and Economic Considerations

There would be no significant local, social, or economic impacts if the WSA were designated wilderness.

Summary of WSA-Specific Public Comments

During the inventory phase, twenty-one public comments were received on the Pryor Mountain WSA and carried forward into the study phase. Twenty comments favored wilderness designation of the area, while one comment was opposed because of concern about possible conflicts with wild horse management.

Three wilderness scoping meetings were conducted in May 1982, before wilderness study work in the Billings Resource Area began. The first meeting was held on May 19, 1982, in Lovell, Wyoming. Of four people attending, three were opposed to wilderness designation in the Pryor Mountains because of concern for management of the wild horses. The fourth individual expressed concern about the possible impact wilderness designation might have on offsite bentonite mining activities.

A second meeting was held in Billings on May 21, 1982. Three individuals attended that meeting and all favored wilderness designation for the WSA.

The third meeting was held in Lewistown, Montana, on May 26, 1982. One individual attended that meeting, but did not express any opinions about possible wilderness designation in the Pryor Mountains.

Two formal public hearings were held in Billings and Lovell during the 90-day comment period on the Draft Billings RMP/EIS. During this time 392 comments, both oral and written, were received. Twenty-four of these comments were associated with the WSA. Of that number, 21 percent were in favor of less wilderness than the preferred alternative, 38 percent took no pro or con Position, and 40 percent supported either the proposed preferred alternative or more wilderness than proposed.

The National Park service favored wilderness designation for the Pryor Mountain WSA. The U.S. Fish & Wildlife Service, Bureau of Mines, Department of the Army, Bureau of Reclamation, and Environmental Protection Agency commented on the Draft EIS, but made no recommendation concerning this WSA.

Montana state government did not formally comment on the wilderness proposals in the Pryor Mountains. Wyoming state government said that it supported BLM's preferred alternative, but felt that sufficient flexibility should be incorporated in the designation to allow for needed range improvements and wild horse management activities.

A meeting was held with the Carbon County Commission, but its members expressed no concerns about wilderness designation in the Pryor Mountains.

BIG HORN TACK-ON WILDERNESS STUDY AREA

1. **THE STUDY AREA** -- 2,470 acres - Montana
353 acres - Wyoming

The Big Horn Tack-On Wilderness Study Area (MT-067-207) is located along the southfacing slopes of the East Pryor Mountains within the Pryor Mountain Wild Horse Range (PMWHR). The study area is approximately 17 miles north of Lovell, Wyoming. 353 acres of the study area are located in Big Horn County, Wyoming; the remaining 2,470 acres are in Carbon County, Montana. (See Table 1.) The 353 acre in Wyoming will be reported by the Wyoming BLM.

The Big Horn Tack-On WSA is a narrow strip of land averaging 9 miles in length and less than one-half mile in width. It is located between the Sykes Ridge Road on the west and the Bighorn Canyon National Recreation Area, administered by the National Park Service, on the east. The WSA consists primarily of steep slopes rising up to a narrow ridge. Just below the ridge crest is the Sykes Ridge Road, which extends the entire nine-mile length of the WSA and forms the western boundary. The Sykes Ridge Road is a BLM access route through the PMWHR.

Elevations range from about 8,100 feet in the north end of the WSA to 4,040 feet in the southern tip.

The WSA was studied under Section 202 of the Federal Land Policy & Management Act (FLPMA) and was included in the Billings Resource Management Plan Environmental Impact Statement (RMP/EIS) filed in November 1983. The Billings RMP/EIS addressed four alternatives: an all-wilderness alternative of 4,550 acres, a partial-wilderness alternative of 2,550 acres, and two options that included the no-wilderness alternative. In the Record of Decision issued in September 1984, 2,550 acres of this WSA were brought forward for further study and the remaining 2,000 acres of the area were dropped from wilderness review. The Wilderness Final Environmental Impact Statement filed in June 1988 contains an all-wilderness alternative, which is the recommendation of this report, and a no-wilderness alternative. Included in this report are 138 acres of acquired lands and 700 acres of land previously segregated from the WSA by roads. These lands are recommended for wilderness designation. The roads bordering the east sides of these islands of land have recently been closed to all traffic. (See map).

2. **RECOMMENDATION AND RATIONALE** - 2,470 acres recommended for wilderness
0 acres recommended for nonwilderness

The recommendation for this WSA is to designate the entire area wilderness, including 353 acres in Wyoming. This is considered the environmentally preferable alternative as it will result in the least change from the natural environment over the long term.

This WSA extends along about 7 miles of the east side of the Pryor Mountain WSA and 9 miles along the west side of the Big Horn Canyon WSA administered by the National Park Service. Designation of this tack-on would eliminate a long narrow island of public land between those two WSAs.

The WSA is primarily in a natural state with a few dispersed, but fairly well-screened, human intrusions. These consist of uranium exploration pits (20'x25', 3' deep), a wild horse trap in the northern portion along the west boundary road, and vehicle ways (two track), one in the north and one in the south end of the WSA. Topographic and vegetative features screen these intrusions.

This WSA, by itself, does not contain the opportunities for solitude or unconfined recreation that are typical of the adjacent WSAs. While in some areas vegetation or broken topography may provide limited opportunities, these do not exist to any significant extent. If the WSA is incorporated with the wilderness proposals on either side, however, it complements all of their outstanding characteristics. On the other hand, nondesignation and subsequent use of other resources could significantly and adversely impact the adjacent WSAs. The WSA does contain outstanding scenic opportunities.

Conflicts with other resource uses are practically nonexistent. The narrow configuration and steep broken topography render the WSA unsuitable for most uses. Timber harvesting is prohibited throughout the area and very little timber exists within the WSA. No grazing, ORV use, land-use actions (easements or rights-of-way), or oil and gas leasing is permitted. Mineral resource development potential is low, and past activity associated with uranium exploration has died out.

Table 1
Land Status and Acreage Summary of the Study Area

	(Montana) Acres	(Wyoming) Acres
Within Wilderness Study Area		
BLM (surface and subsurface)	2,470	80
Split Estate (BLM surface only)	0	0
Inholdings (state, private, other)	0	0
Total	2,470	80
Within The Recommended Wilderness Boundary		
BLM (within WSA)	2,470	80
BLM (outside WSA)	838	273
Split Estate	0	0
Inholdings	0	0
Total	3,308	353
Within The Area Not Recommended For Wilderness		
BLM	0	0
Split Estate	0	0
Inholdings	0	0
Total	0	0

3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

A. **Naturalness**: The WSA appears to be in a natural state because of the scattered nature of the constructed features and the topographic and vegetative screening of the surrounding environment.

There are some signs of human presence. The WSA contains a BLM horse trap used for capturing excess wild horses. It is constructed of native materials and is well screened by vegetation and topographic features. The area contains several uranium prospect pits and approximately 1.5 miles of low quality two-track vehicle ways. There is a radio repeater in Section 21 along the north boundary of the WSA.

B. **Solitude**: The WSA is approximately 9 miles in length and less than a half-mile wide in most areas. Toward the southern end it widens to approximately one mile. This portion of the area consists of the crest of Sykes Ridge and the west-trending slopes just below Sykes Ridge. This high limestone ridge rises in elevation from approximately 4,000 feet in the extreme southern portion to 8,000 feet in the north. The crest of the ridge primarily comprises steep, rocky outcroppings.

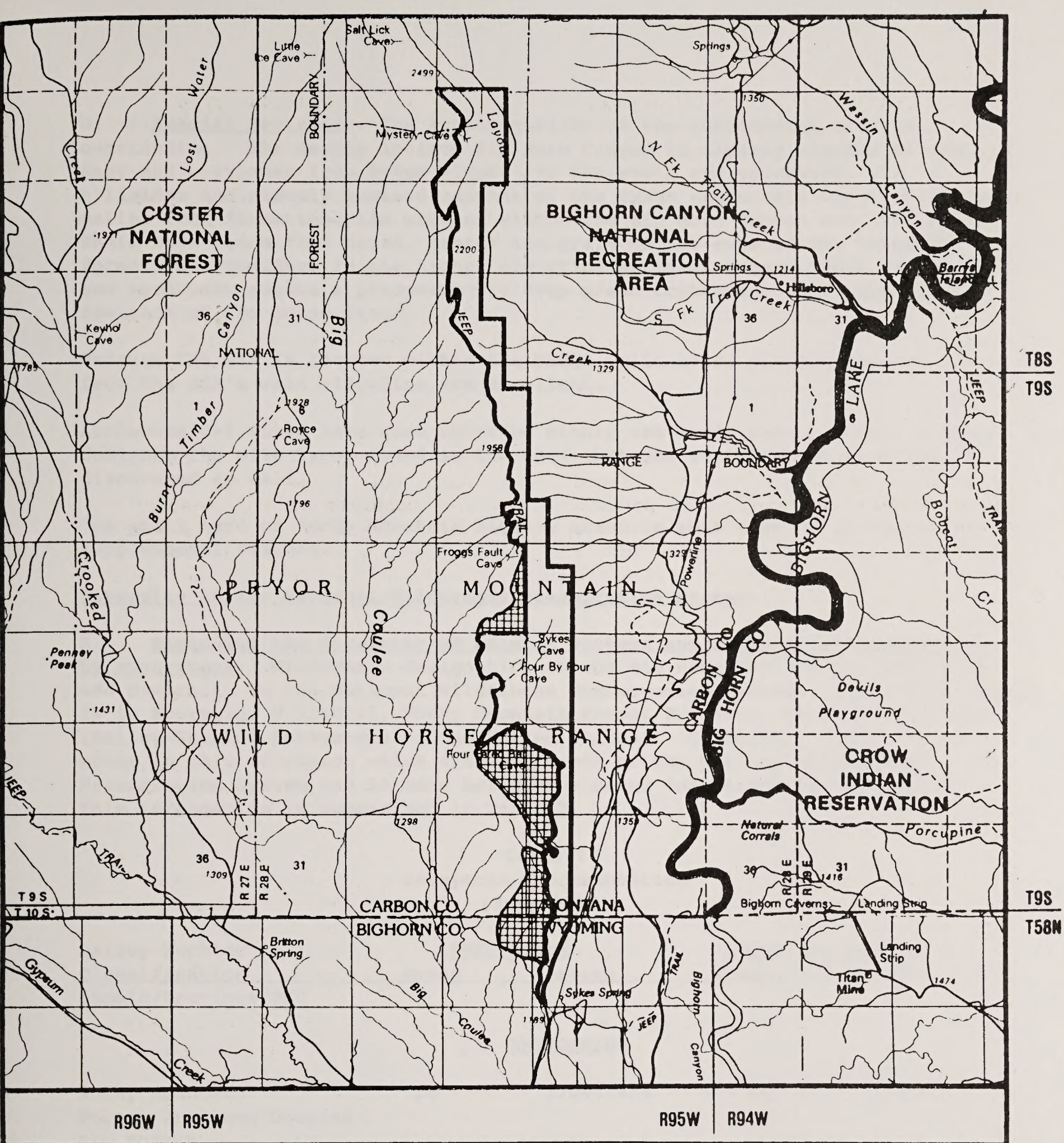
From Sykes Ridge, wilderness users would be able to detect traffic on the Bad Pass Highway within the Big Horn Canyon National Recreation Area. At most points, this highway is approximately one and one-half miles to the east.

Outstanding opportunities for solitude in the tack-on itself are limited because of the elevated, open nature of Sykes Ridge, the nearby location of the boundary road, and offsite impacts associated with the Bad Pass Highway. Small timbered areas in the northern portion of the area provide some areas with opportunities for solitude.

C. **Primitive and Unconfined Recreation**: Two caves in the WSA provide spelunking opportunities. These opportunities could not be considered outstanding, however, because of limited access and, in one situation, a dangerous point of entry. For experienced climbers, the possibility of rock climbing exists on some of the sheer limestone cliff faces and pinnacles.

Hiking and associated photography and sightseeing activities are outstanding. The topographic relief, the unique geologic formations, and the wide expanse of rugged country within view from the ridge tops present a variety of challenges to potential users.

Hunting could not be considered outstanding in relation to opportunities in adjacent areas. Big game, primarily mule deer, are more frequently found on the National Forest lands to the west. There is some black bear hunting in the Pryor Mountains, but this too occurs most commonly on National Forest lands. Some hunting would occur within the area in association with the more concentrated activity on adjacent lands.



	RECOMMENDED FOR WILDERNESS	NONE	SPLIT ESTATE	
NONE	RECOMMENDED FOR NONWILDERNESS	NONE	STATE	
	LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS	NONE	PRIVATE	

Bighorn Tack-on Proposal

0 1 2 3 Miles
0 1 2 3 4 5 Kilometers

MT-067-207
SEPTEMBER, 1990

D. **Special Features**: The scenic quality of the surrounding area is outstanding. The deeply incised Big Horn Canyon is clearly visible to the east and northeast from Sykes Ridge. To the south and southwest, the hillsides and steeply incised canyons of the PMWHR are within view. Colorful marine rock formations lie exposed within the Big Horn Canyon and the PMWHR. Their hues range from blues, greens and grays to the reds of the Chugwater formation. Conifers in the higher elevation National Forest lands to the west and northwest create a predominantly deep green contrast to the more arid lowlands of the horse range.

Because the WSA is located within the PMWHR, wild horse viewing opportunities from the WSA's main ridgeline are excellent.

Archeological sites have been recorded within the study area. Lithic scatters dominate the site types found in the unit, but one vision-quest site has been discovered as well.

The small herd of Rocky Mountain bighorn sheep in this area is an important supplemental feature.

Diversity In The National Wilderness Preservation System:

A. **Expanding the diversity of natural systems and features as represented by ecosystems**: Wilderness designation of the Big Horn Tack-On WSA would not add diversity to the National Wilderness Preservation System. This study area is in Ecoregion M 3110/11, Rocky Mountain Forest Province, Douglas Fir Forest (Bailey-Kuchler Ecosystems of the United States). Currently, there are 17 areas in this ecoregion which are components of the National Wilderness Preservation System and 23 WSAs being considered for wilderness designation. This information is summarized in Table 2.

Table 2
Ecosystem Representation
(July 1990)

Bailey-Kuchler Classification Domain/Province/PNV	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
		NATIONWIDE		
Rocky Mountain Forest Province/Douglas Fir Forest	14	1,046,482	12	98,328
		MONTANA		
	3	142,874	11	101,052

B. **Assessing the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers**: The WSA is within five hours' driving time of three major population centers: Billings and Great Falls, Montana, and Casper, Wyoming. Table 3 summarizes the number and acreage of designated and other BLM study areas within five hours' driving time of these population centers.

Table 3
Wilderness Opportunities For Residents Of Major Population Centers

	NWPS Areas		Other BLM Studies	
Population Centers	areas	acres	areas	acres
Billings, Montana	12	4,808,142	54	3,466,800
Great Falls, Montana	19	8,922,567	68	4,617,100
Casper, Wyoming	18	4,022,461	35	3,658,295

C. **Balancing the Geographic distribution of wilderness areas**: Wilderness designation of the Big Horn Tack-On WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The 920,377-acre Absaroka-Beartooth Wilderness, administered by the U.S. Forest Service, is approximately 54 airline miles west of the Big Horn Tack-On. This wilderness area is quite accessible to residents of Billings and smaller communities nearby. The higher elevations in the Pryor Mountains are used extensively by area residents, however, and wilderness designation would complement this usage.

Manageability (the area must be capable of being effectively managed to preserve its wilderness character)

The WSA is manageable as wilderness only in conjunction with BLM's Pryor Mountain WSA and the National Park Service's Big Horn Canyon study area. This long, narrow area splits the two adjacent study areas, and shares common boundaries for approximately 9 miles with those units. Although the Big Horn Tack-On could not be managed by itself, its designation would contribute significantly to the manageability of the adjacent WSAs as wilderness, and vice versa. There are no proposed activities by any resource or use that would affect this WSA.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines assessed the mineral potential of this WSA in 1985. Designation of this WSA as wilderness would cause very little impact on energy and mineral resource development. Prospective mineral resources that may occur in the study area are uranium/vanadium (moderate potential), limestone, and oil and gas. The uranium/vanadium mineralization is primarily confined to the contact zone between the Madison and Amsden formations, mostly outside the study unit on nearby Big Pryor Mountain and Burnt Timber Ridge. Although over 500 uranium occurrences are known within the Pryor Mountains, most contain only traces of mineralized material.

Limestone is found throughout the entire study area and is currently being mined approximately 14 airline miles to the west near Warren, Montana. Other deposits of limestone that could be used for commercial purposes are common throughout the Pryor Mountains.

There are no known deposits of oil and gas within or near the study are. No portion of the WSA is leased for oil and gas. The study area has a low potential for all metals (except uranium and vanadium), oil and gas, geothermal sources, and high purity limestone. There is no potential for sand and gravel in the study area.

Impacts on Resources

The following comparative impact table summarizes the effects on pertinent resources for the alternatives considered.

Table 4
Comparative Summary of Impacts - Big Horn Tack-On WSA

Issues	All Wilderness - Proposed Action	No-Wilderness Alternative
Impacts on Wilderness Values	All wilderness values on 2,550 acres would be protected and preserved.	Naturalness and solitude would be slightly degraded on 20 acres by construction of a water catchment and one half-mile of fence.
Impacts on the Watershed Resource	Watershed conditions would improve on 1,600 acres in the long term (100 years).	Watershed conditions would improve on 1,600 acres in the long term (100 years). These impacts are identical to those under the Proposed action.
Impacts on Mineral Exploration and Production	Though exploration would be prohibited, there would be no effect on mineral production due to low potential for such development.	There would be no effect on mineral exploration or production. None is anticipated due to low development potential.
Impacts on Wild Horse Population and Management	Some range projects would not be developed, but this would result in minor impacts since very few developments are proposed.	Range project proposals could be considered without regard for preservation of wilderness values. No impacts to wild horse management.
Impacts on Mule Deer, Black Bear, and Bighorn Sheep Habitat and Population	Existing habitat for mule deer, black bear, and bighorn sheep will be protected and preserved.	The existing habitat for mule deer, black bear, and bighorn sheep will be maintained.
Impacts on Peregrine Falcon Habitat and Population	The proposed action will protect and preserve peregrine falcon habitat and population.	Peregrine falcon habitat would remain substantially unchanged. Expected impacts under this alternative would be essentially the same as under the proposed action.
Impacts on Recreation Use	An increase will occur in nonmotorized use of 2 or 3 percent for a decade.	An increase will occur in nonmotorized use of 850 visitor days or 1 to 2 percent annually.
Impacts on cultural Resources	Archeological sites will be protected and preserved.	Archeological sites will be protected.

Local Social and Economic Considerations

There would be no significant local social or economic impacts if the WSA were designated wilderness.

Summary of WSA-Specific Public Comments

During the inventory phase, six comments were received specifically on the Big Horn Tack-On WSA and carried forward into the study phase. Five comments favored wilderness designation because of concern about possible conflicts with wild horse management.

Three wilderness scoping meetings were conducted in May 1982, before wilderness study work in the Billings Resource Area began. The first meeting was held on May 19, 1982, in Lovell, Wyoming. Of four people attending this meeting, three were opposed to wilderness designation in the Pryor Mountains because of concern for management of the wild horses. The fourth individual expressed concern about the possible impact wilderness designation might have on offsite bentonite mining activities to the south of the study area.

A second meeting was held in Billings on May 21, 1982. Three individuals attended that meeting; all favored wilderness designation for the Big Horn Tack On WSA.

The third meeting was held in Lewistown, Montana, on May 26, 1982. One individual attended that meeting but did not express any opinions about possible wilderness designation in the Pryor Mountains.

Formal public hearings were held in Billings and Lovell during the 90-day comment period on the Draft Billings Resource Area RMP/EIS. During this time 392 oral and written comments were received. Of these, twenty-three comments were associated with the Big Horn Tack-On WSA: 35 percent favored more wilderness than the proposal, 17 percent favored less wilderness, and 48 Percent expressed no position.

The National Park Service recommended that wilderness designation be sought for the Big Horn Tack-On WSA, particularly the southern segment. The U.S. Fish & Wildlife Service, Bureau of Mines, Department of the Army, Bureau of Reclamation, and Environmental Protection Agency commented on the Draft RMP, but made no recommendations concerning the Big Horn Tack-On WSA.

Montana state government did not formally comment on the wilderness proposals in the Pryor Mountains. Wyoming state government said that it supported BLM's preferred alternative but felt that sufficient flexibility should be incorporated in the designation to allow for needed range improvements and wild horse management activities.

A meeting was held with the Carbon County Commission but its members expressed no concerns about wilderness designation in the Pryor Mountains.

APPENDIX 1

SCAB CREEK ISA REPORT

SCAB CREEK ISA REPORT

SUMMARY

Draft ( ) Final (X) Environmental Impact Statement, Department of the interior, Bureau of land Management, Rock Springs District, Wyoming

1. Type of Action: Administrative ( ) Legislative (X)

2. **Brief Description of Action:** The proposed action is to recommend designation of the present Scab Creek Primitive Area (designated on June 17, 1975) and 956 contiguous areas for inclusion in the National Wilderness Preservation System. The total acreage proposed for wilderness designation is 7,636. The general location of the proposed Scab Creek Wilderness Area is adjacent to the Bridger National Forest about 20 miles southeast of Pinedale, Wyoming, and 90 miles north of Rock Springs, Wyoming

Management of the Scab Creek area as wilderness under the Wilderness Act of 1964, would result in allowing only those actions to occur which would detract from the area's wilderness character.

3. **Summary of Environmental Impacts:**

A. Soil erosion from off-road vehicle (ORV) trails would be reduced from 14 tons per year to 1 ton per year.

B. Sedimentation from ORV trails would be reduced from approximately 10 tons per year to 0.7 ton per year.

C. Visual values, wildlife habitat, and cultural resources protected would increase from 6,680 acres to 7,636 acres.

D. The entire 7,636 acres would be closed to ORV use.

E. There would be a segregation of 40 acres from mineral location that had not previously been segregated. This would virtually eliminate any possibility of prospecting or development of locatable minerals that may be present within this tract.

F. Water quality would improve, and all streams in the area could be designated Class I by the State of Wyoming.

G. The Scab Creek areas in conjunction with the Bridger Wilderness would provide the unique opportunity to study an additional life zone in the continuum of ecosystems from 7,400 to 12,500 feet.

4. **Alternatives Considered:** The two alternatives considered in this EIS are no-action alternative and alternative whereby only the presently designated Scab Creek Primitive Area would be recommended for designation as wilderness.

The no-action alternative is a recision of the primitive area designation on the existing Scab Creek Primitive Area. Through the land use planning process, the existing Scab Creek Primitive Area and the 956 contiguous acres could be allocated to one or more of a variety of resource management options allowed under the Federal Land Policy and Management Act (FLPMA). The Scab Creek supplement to the Pinedale Management Framework Plan (MFP) recommends designation of the areas as an Outstanding Natural Area. Should Congress determine the area is not suitable for wilderness designation, further consideration through the planning system would be given to the MFP recommendation of designation as an Outstanding Natural Area.

The second alternative is to recommend the existing 6,680 acre Scab Creek primitive Area for wilderness designation. This would result in similar, related resource management actions as the proposed action, but confined to the present primitive area. The 956 contiguous acres could be allocated to one or more of a variety of resource management options allowed under FLPMA. The Scab Creek MFP Supplement recommends the designation of these 956 contiguous acres as a special management area (probably an ACEC). The management objective for this acreage is, as defined in the MFP supplement, to maintain a resource conservation mode. Management under this designation would be in accordance with management guidelines being developed by BLM.

5. **Cultural Resource Clearance:** The cultural resource work in compliance with Section 108 of the National Historic Preservation Act has been completed. Refer to Appendix 8 of the Draft EIS.

6. **Date Draft Statement Made Available to EPA and to the Public:** December 9, 1980

WILDERNESS STUDY RECOMMENDATION

The Bureau of Land Management (BLM) recommends to the Secretary of the Interior that Congress incorporate the Scab Creek Primitive Area and 956 acres of contiguous public lands having wilderness characteristics into the National Wilderness Preservation System. The total acreage proposed for wilderness is approximately 7,636 areas.

The area meets the criteria of Section 2(c) of the Wilderness Act of 1964, and multiple-use resource analysis revealed no significant resource conflicts resulting from a wilderness designation.

An environmental impact statement (EIS) on wilderness status for Scab Creek analyzed three alternatives:

1. Wilderness designation of the 6,680 acre primitive area and 956 acres of adjacent land.
2. No action.
3. Wilderness designation of only the established 6,680 acre primitive area.

The EIS is incorporated by reference into this document. No significant adverse impacts for any alternative were identified. It is therefore concluded that the beneficial impact of permanently preserving the wilderness characteristics of the area through wilderness designation would outweigh the minimal adverse impacts. BLM has identified Alternative No. 1 as the proposed action and the best choice for management of the lands within the Scab Creek area.

Recommendation: Donald H. Sweep — 3/31/81
District Manager — Date

Approved: F. William Eikenberry — 4/2/81
Associate State Director — Date

Approved: _____ _____
Director — Date

Approved: _____ _____
Secretary — Date

APPENDIX 2

INHOLDINGS

AND

ACQUISITION

TABLE

INHOLDINGS AND ACQUISITIONS TABLE

ACREAGES FOR ACQUISITION FOR
PROPOSED WILDERNESS AREAS

	STATE	PRIVATE	SPLIT ESTATE
BOBCAT DRAW			
T. 48N., R. 97 W.,			
sec. 16, all.	640		
(49-72-0087 - school section)			
T. 49N., R. 97 W.,			
Tract 37.	638.18		
(49-74-0148 - school section)			
Subtotal Bobcat Draw	1,278.18		
FERRIS MOUNTAINS			
T. 27 N., R. 87 W.,			
sec. 29, NE¼SE¼, S½SE¼;		120	
sec. 32, NW¼NE¼.		40	
(460932 CE Pat D/C)			
Subtotal Ferris Mountains		160	
ADOBE TOWN			
T. 15 N., R. 97 W.,			
sec. 36, E½, S½SW¼			400 Fed. Surf.
SAND DUNES			
T. 23 N., R. 104 W.,			
sec. 16, all.			400 Fed. Surf.
Not'n on MTP:			
WYW 87229			
ACEC 10/19/87			
W 44415			
Recon US (BLM)			
No Min			
49-83-0059			
T. 24N., R. 104 W.,			
sec. 16, all.	640		
T. 24 N., R. 105 W.,			
sec. 36, all.	640		
T. 24 N., R. 105 W.,			
sec. 24, NW¼, N½SW¼		240	
HONEYCOMB BUTTES			
T. 26 N., R. 99 W.,			
sec. 16, all.			640 Fed. Surf.
T. 27 N., R. 100 W.,			
sec. 36, all.	640		
(49-73-0080 - school section)			

	STATE	PRIVATE	SPLIT ESTATE
DEVILS PLAYGROUND			
T. 14 N., R. 109 W.,			
sec. 16, all.			640 Fed. Surf.
Not'n on MTP:			
Min Only			
49-76-0078			
C 059693			
Recon US			
T. 14 N., R. 110 W.,			
sec. 36, all.			640 Fed. Surf.
Not'n on MTP:			
Min Only			
49-76-0078			
C 000059693			
Recon US			
RAYMOND MOUNTAINS			
T. 26 N., R. 119 W.			
sec. 28, SW¼S¼	40		
sec. 16, all.	640		
T. 27 n., R. 119 W.			
sec. 16, all.	640		
T. 27 N., R. 119 W.			
sec. 2, NE½SW¼		40	
sec. 9, SE¼SE¼		40	
sec. 10, W½SW¼		80	
sec. 15, NW¼NW¼		40	
Total	4,518.18	600	2,960

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